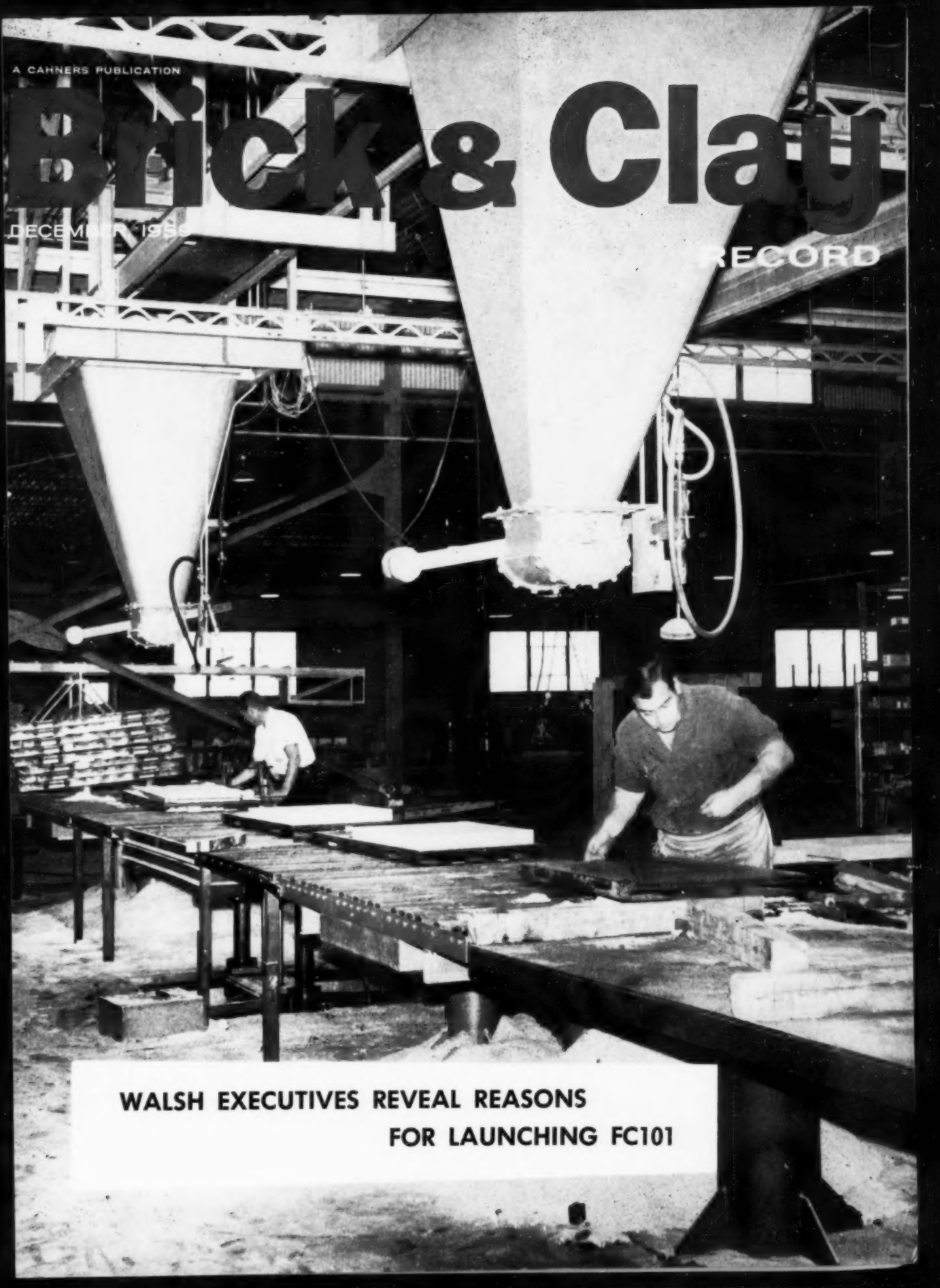
A CAHNERS PUBLICATION

Brick & Clay

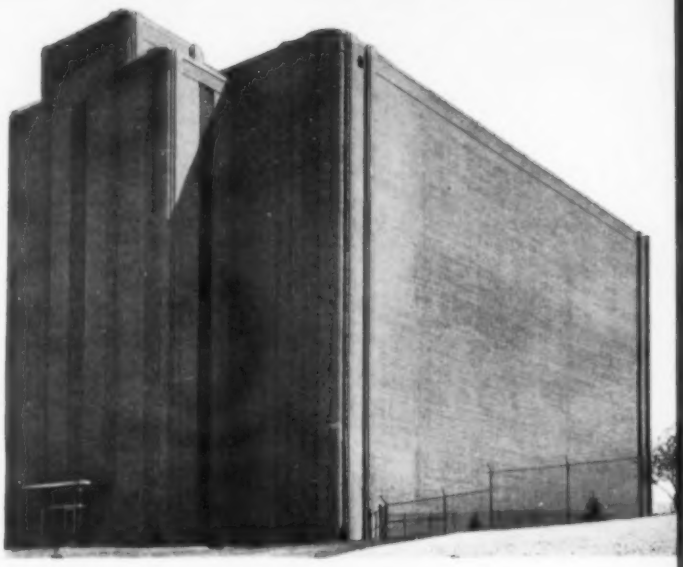
DECEMBER 1959

RECORD



WALSH EXECUTIVES REVEAL REASONS FOR LAUNCHING FC101

from mass to the "magic of a Frank Lloyd Wright design," you can count on BONNOT EQUIPMENT



Home photos courtesy of Architect Frank Lloyd Wright, A.I.A.; photo of Vat House—the walls of which required nearly 1 million brick, courtesy of Miller High Life, of Milwaukee.

FROM the sheer mass of nearly one million brick in a towering industrial plant wall . . . to the use of many or relatively few brick in imaginative styling for homes . . . the units must be "exactly right." To meet these rigid requirements, you must produce brick and tile in which the architect, contractor and owner can put complete confidence.

What's more, you must do it in a way that makes money for your company. In addition to **product quality,** you must have **quantity production** . . . at the **lowest possible cost.** For nearly 70 years, Bonnot engineering has been developing such equipment.

Bonnot "firsts" have paced the industry. More Bonnot advancements are being tested in plant and laboratory. Your raw materials —your production demands "are the business" of Bonnot clay processing specialists — young in aggressive spirit but totaling hundreds of years in background and experience.

Bring your clay problems to Bonnot — for prompt attention, immediate action — at a time when dependable production is the big key to customer satisfaction and company profits. Bonnot welcomes the opportunity to help you produce more and better brick and tile NOW.

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between ***LAB*** *men and* ***PLANT*** *men?*

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A strong contribution to the peace of mind of both lab and plant men has been made by ULTROX Opacifiers. Their unexcelled opacity benefits glaze formulations ranging from colors to ultra-whites. More important, often, is the unusually fine uniformity of ULTROX Opacifiers in composition and particle size—contributing greatly to the plant's ability to deliver dependable "on standard" color and finish.

Select from the three ULTROX Opacifiers that meet the full range of glazing requirements. Available at no obligation is the help of M&T's ceramic engineers backed by data on thousands of optimum-performance glazes.

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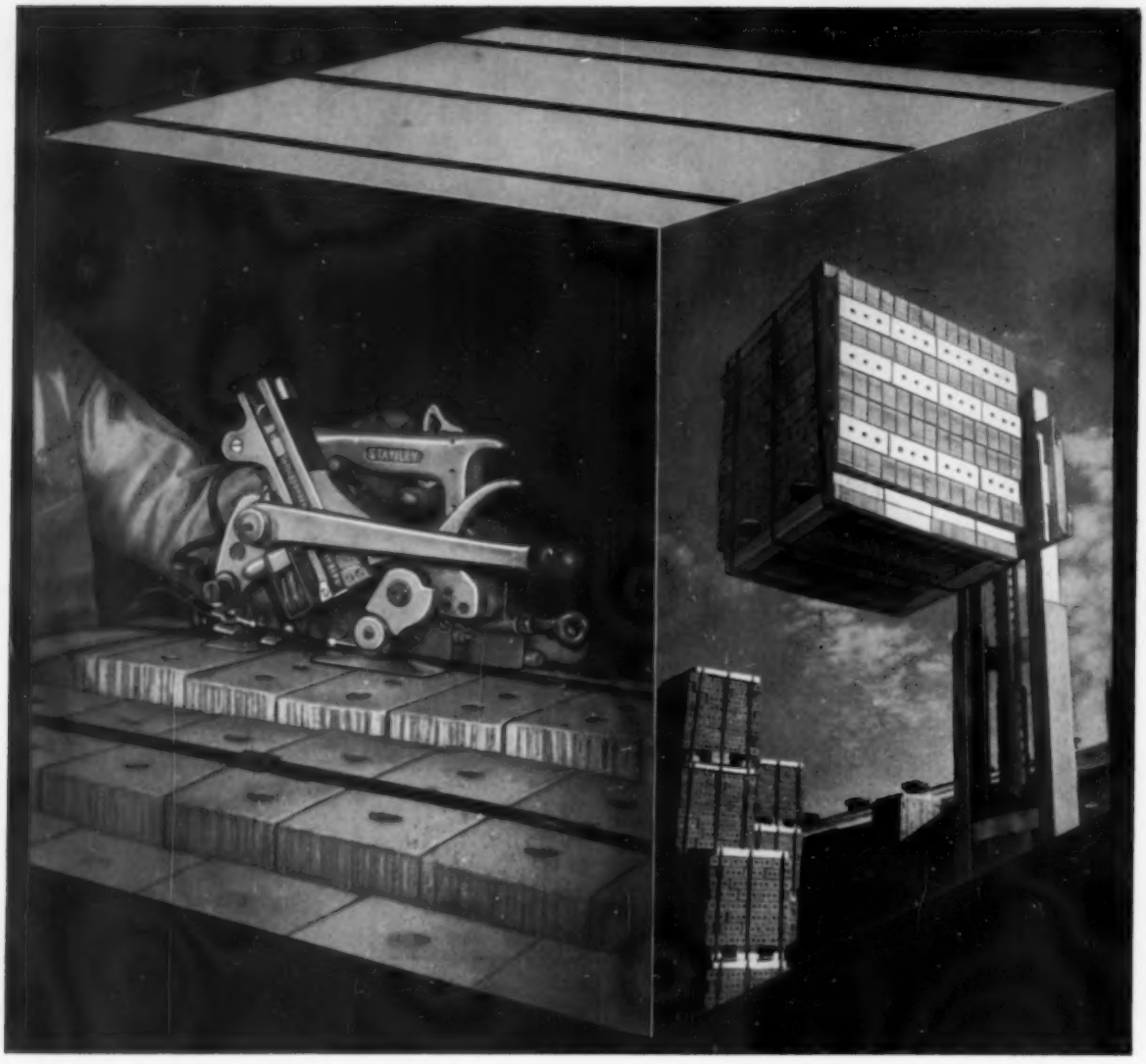

Loading time reduced 83% with STANLEY Steel Strapping System

When The Huntsville Brick and Tile Co., of Alabama, handled brick manually, it required 90 minutes to load each truck with 6,000 brick. 5% of the company's entire output was lost through brick breakage!

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LEADING CLAY JOURNAL OF THE WORLD

Brick & Clay RECORD

A CAHNERS PUBLICATION

December, 1959 Vol. 135. No. 6

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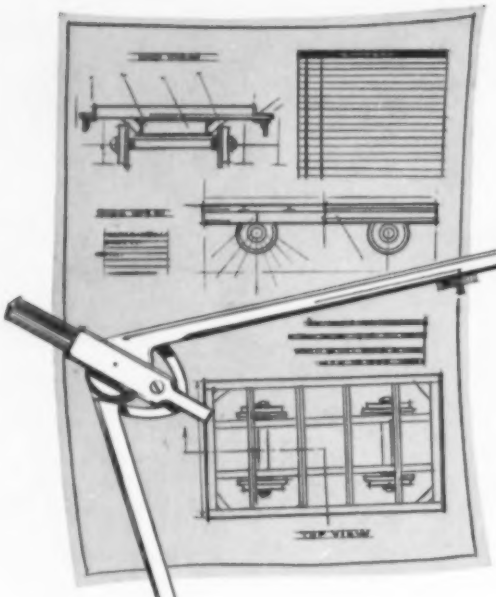

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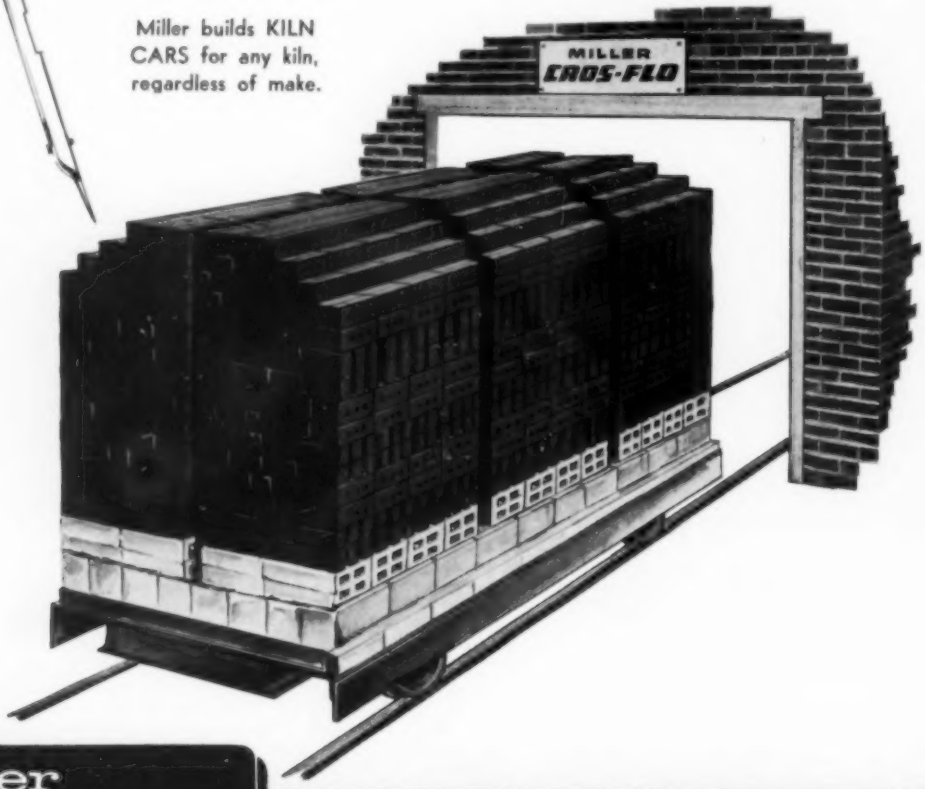

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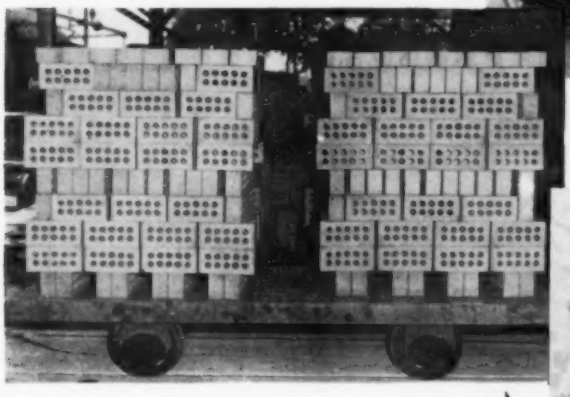

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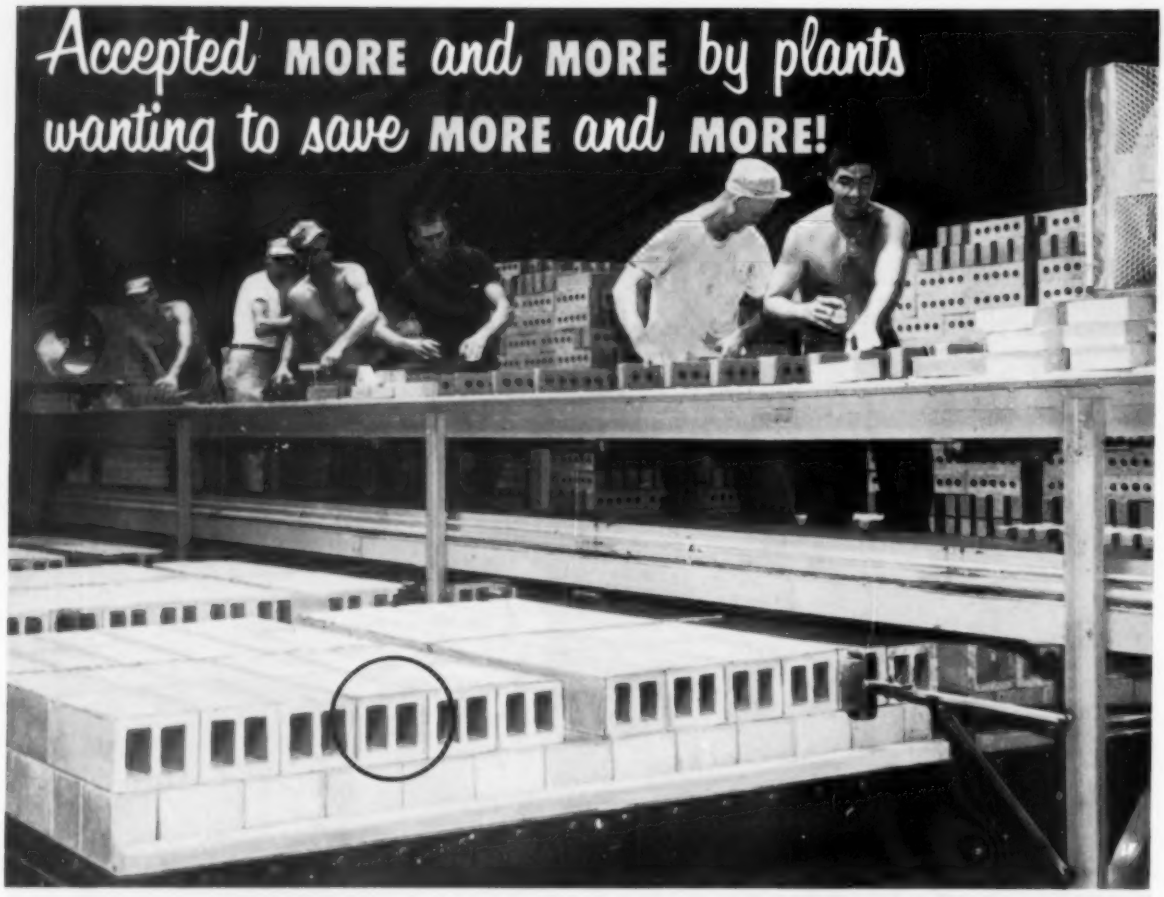

PHOTO—Cloud Ceramics No. 2 Plant, Concordia, Kansas. This modern plant uses 7" x 8½" x 19½" PACO car tops on top deck; 4½" x 8½" x 8¼" PACO car tops, with light weight insulation, for perimeter.

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More and more tunnel kiln brick producers are finding they can reduce car top replacement costs as much as 50% with PACO! And, here's why PACO car tops last longer. They are made from the mineral pyrophyllite, a superior raw material. The result is a stronger, lighter weight car top that is highly resistant to thermal shock. PACO car tops do not have a softening point below actual fusing point, providing greater resistance to hot load deformation. The result is better, more efficient production. They are easy to handle and install, and simple to replace individually as needs.

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Conveyor destroyed by fire on Monday
New one operating Friday

On Monday fire roared up a wooden conveyor owned and operated by a Milwaukee cement block company. Out of the devastation only the wooden "A" frames remained. Without the conveyor, production was at a standstill.

At 6:00 the following morning the owner called the local Barber-Greene distributor to see what could be done. Drawing from his own stock of standardized conveyor components—trusses, idlers, drives—the distributor was able to rush all the necessary components to the burned out plant by noon. And by Friday morning the new conveyor was erected and operating.

This fire and the quick return to normal operations point up the basic advantages of Barber-Greene *standardized* components. These advantages include: quick delivery from stocks of standardized components . . . elimination of engineering time required when building "custom-made" conveyors . . . and fast, easy erection.

Trouble-free operation is an additional benefit of the factory aligned and adjusted drives and terminals. Flexibility in shortening or lengthening your conveyor is another plus.

56-12-PA

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Acme Idea Man Bill Allen helps solve the packaging problems of many companies.

DENVER BRICK AND PIPE COMPANY, DENVER, COLORADO, uses Acme Steel Strapping to secure bricks into packages of five 100-brick units. This system has reduced material handling time and cost, through allowing full use of mechanical handling equipment (Idea No. S3-60)

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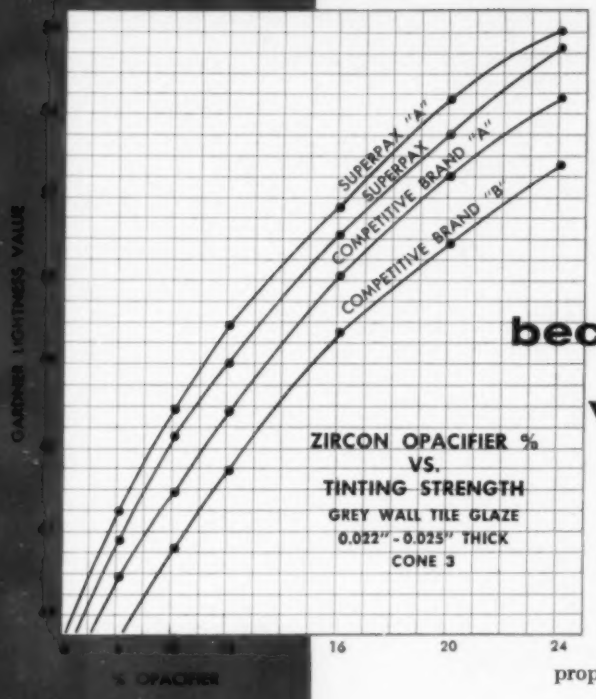
***Work with your Acme Idea Man.** He has ideas that can help you gain more efficient packaging. Write Dept. **BES-129,** Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Limited, 743 Warden Avenue, Toronto 13, Ontario.

ACME STEEL **STEEL STRAPPING**



First Cost becomes secondary with these results

Admittedly, the price of a fine opacifier like Superpax A is and must be higher than the ordinary. Yet, its true cost to you, in actual use, is often lower. And at a lower price, SUPERPAX returns proportionate savings. The charted curves of the percent of Zircon opacifiers in relation to their respective tinting strength illustrates the point.

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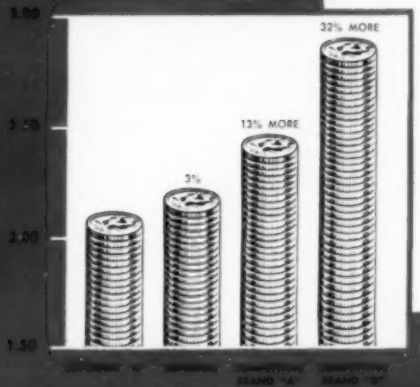

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HANLEY TUNNEL KILN

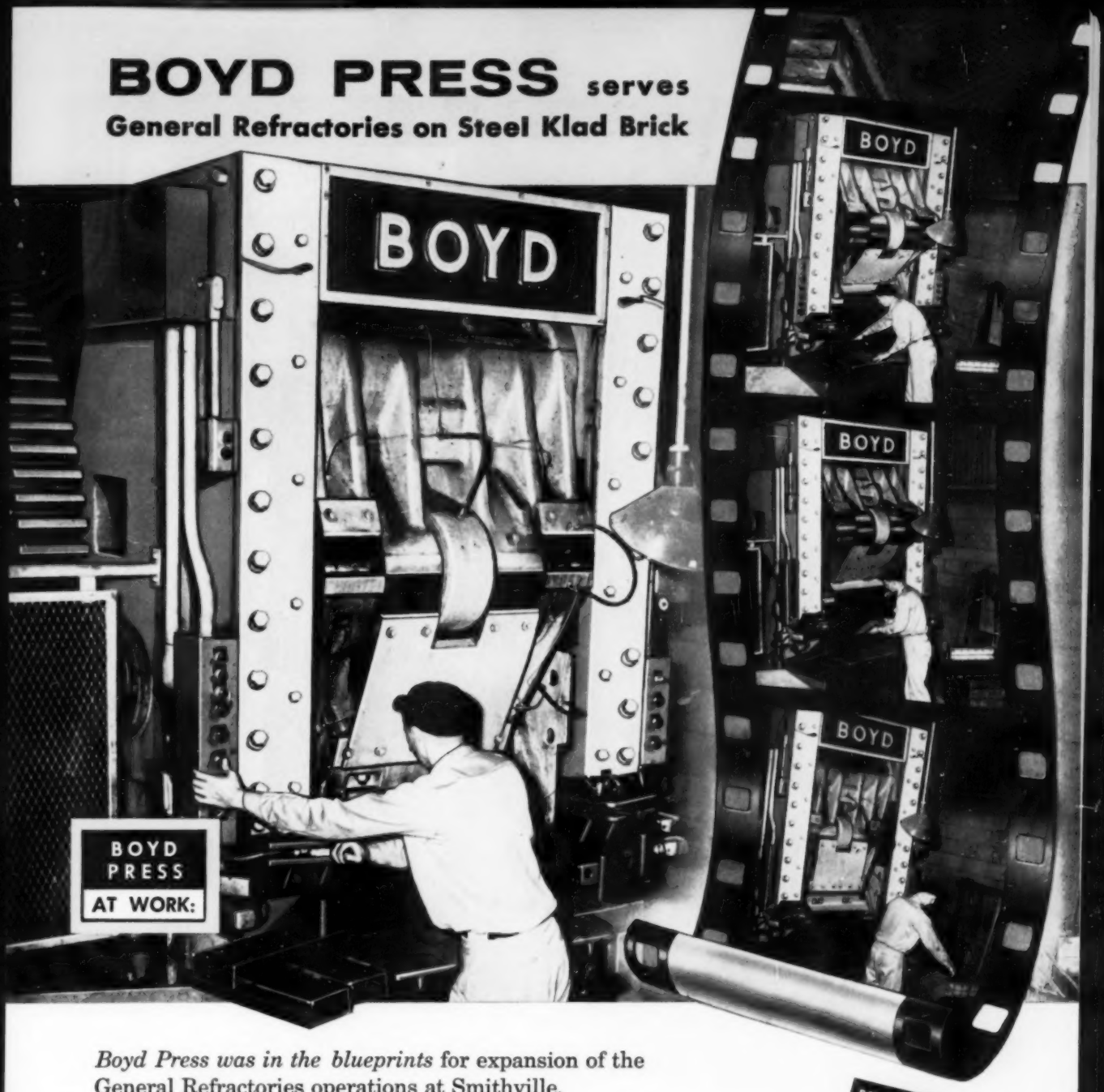
The *HANLEY COMPANY* has proprietory rights in certain inventions some of which are covered by *U. S. PATENT 2,550,807*. These inventions provide many important advantages in the manufacture of such products which are manufactured in tunnel kilns.

Licenses for the use of these inventions will be granted upon reasonable terms to qualified applicants who desire to obtain the valuable advantages offered by the use of these inventions. While the Hanley Company is desirous of granting licenses for the exploitation of these inventions for compensation commensurate with the economies and other advantages obtainable through the use of the inventions, *UNAUTHORIZED USE OF THE INVENTIONS WILL NOT BE TOLERATED BY THE HANLEY COMPANY AND APPROPRIATE MEASURES WILL BE TAKEN TO PREVENT SUCH UNAUTHORIZED USE.*

Inquiries regarding patent 2,550,807 and other inventions of the Hanley Company relating to the production of brick and tile and similar products may be directed to: Mr. N. Barbre, Hanley Company, One Gateway Center, Pittsburgh 22, Pa.

BOYD PRESS serves

General Refractories on Steel Klad Brick



Boyd Press was in the blueprints for expansion of the General Refractories operations at Smithville, Ontario. This new, heavy-duty Model Y press was recently put to work on steel encased basic brick. *Boydamatic* controls make the new unit particularly responsive to the needs for *Steel Klad* brick—as well as flexible for use on other requirements.

Over 800 tons of dependable, working pressure gives General the kind of intensive, but controlled compaction power that make the new Model Y the *best Boyd yet!*—for heavy-duty pressing requirements.

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A new bulletin on the Boyd Press provides dimension data and specifications on both Model Y and Model X. *Boydamatic* control is described and photos show the Boyd Press at work all over the country. Write for your copy.

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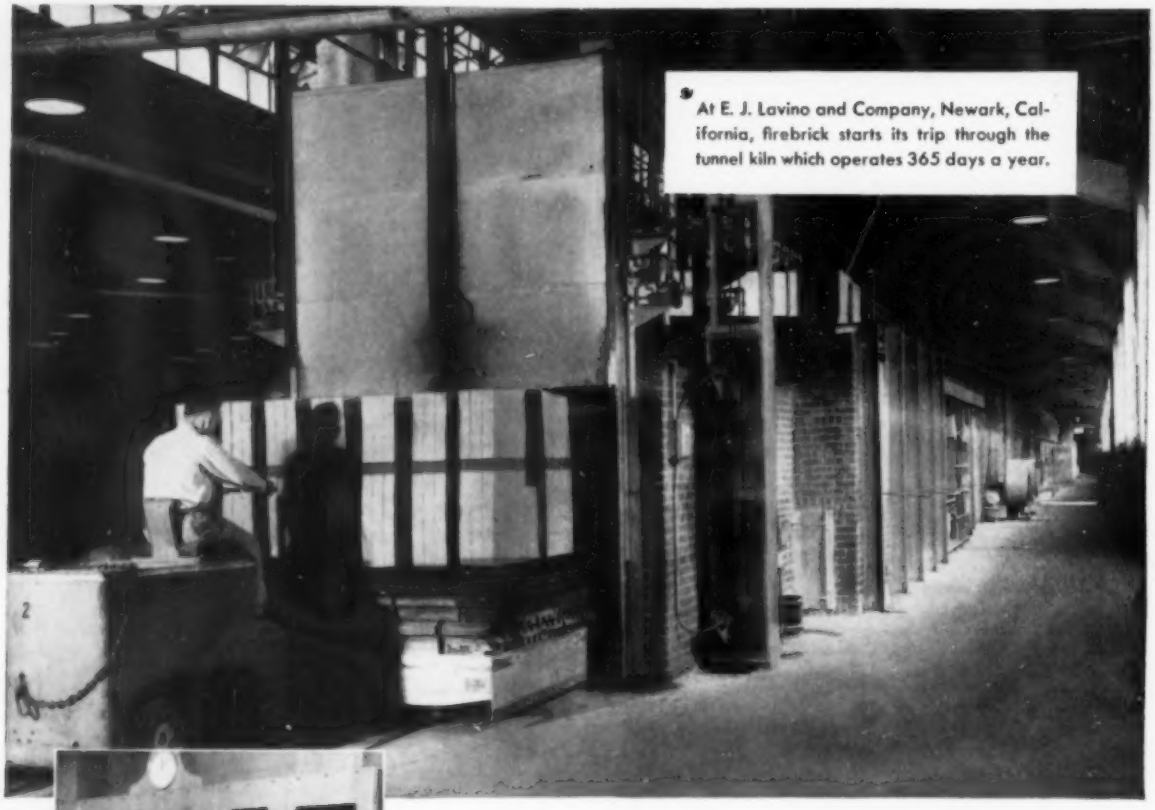

At E. J. Lavino and Company, Newark, California, firebrick starts its trip through the tunnel kiln which operates 365 days a year.

Honeywell instruments indicate and control kiln temperature, measure fuel flow, measure and control kiln pressure. These controls require a minimum of maintenance, as E. J. Lavino and Company learned by experience with them in all its plants.

Honeywell controls assure continuous high-quality firebrick production

at E. J. LAVINO and Company

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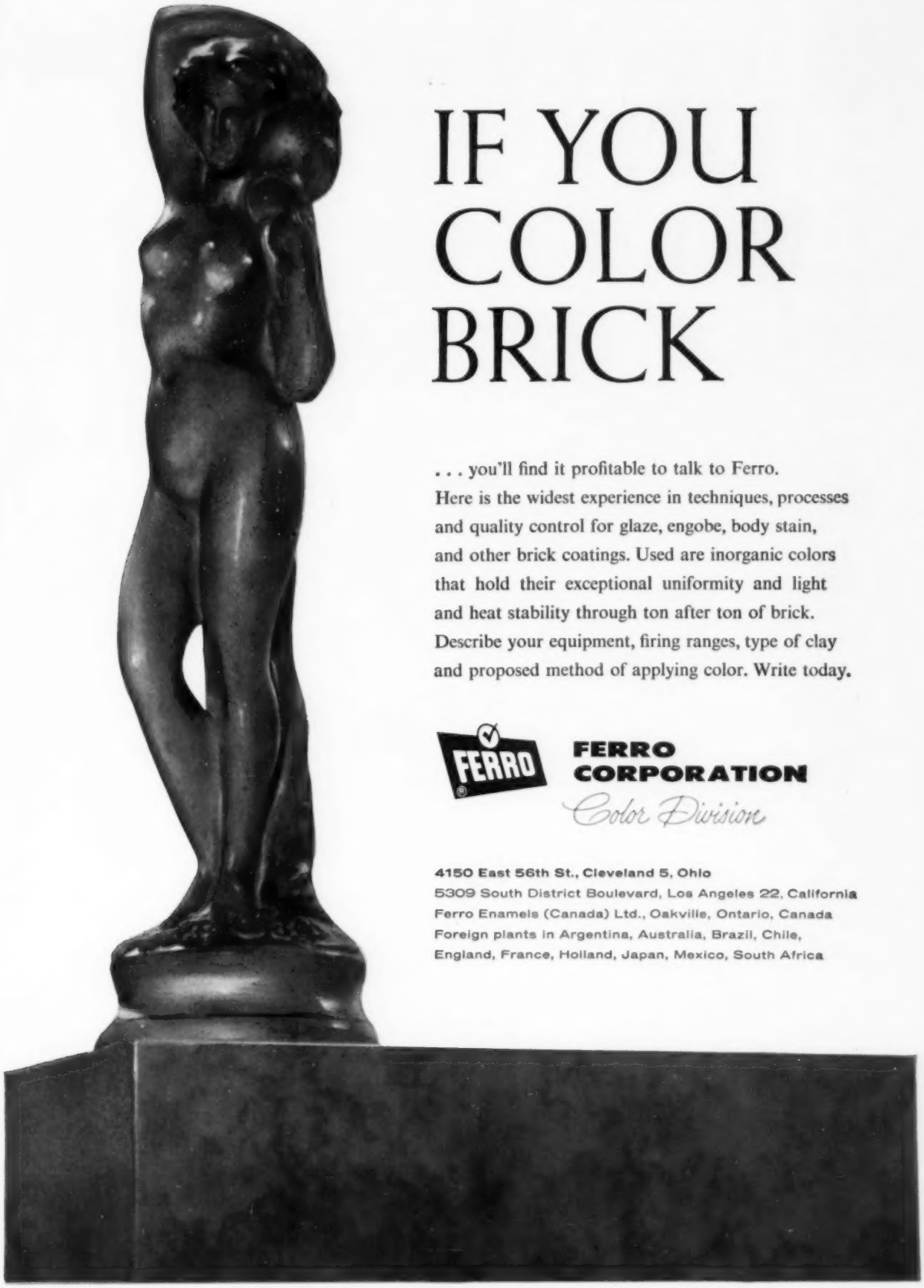

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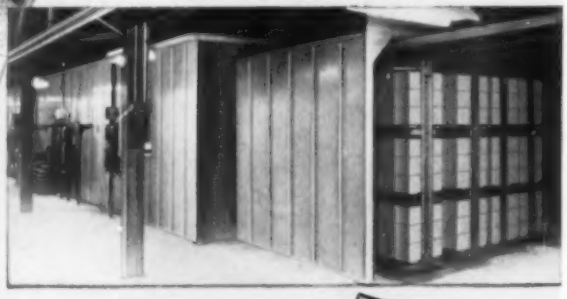
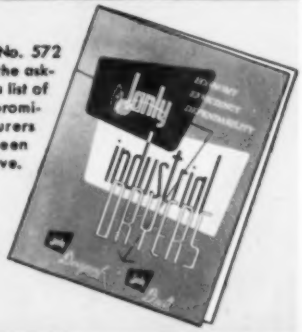


A TYPICAL LANLY MONORAIL DRYER

Central and South American Representative; Interkiln De Mexico S. A. Mexico 4, D. F.

LANLY Bulletin No. 572 is available for the asking. It contains a list of some of the prominent manufacturers LANLY has been privileged to serve.



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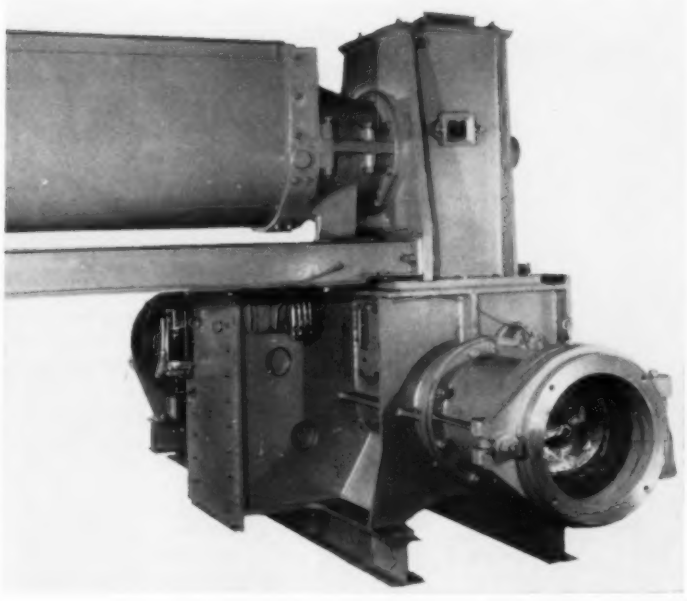

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2. New Products

Appearing in this issue...

Saving of time and labor, low initial costs, low breakage and speedy deliveries are some of the advantages of Superlite unloaders by the BUILDERS EQUIPMENT CO.

12/Circle on Reader's Service Coupon

Cut of the hot load sag, spalling loss . . . slagging with new Dragon brand high quality semi-silica brick made in standard series and special shapes. A product of the DENVER FIRE CLAY CO.

13/Circle on Reader's Service Coupon

The WELLSVILLE FIRE BRICK CO. has unlimited reserves available for production of high quality precision equipment to manufacture quality refractories to exact specifications.

14/Circle on Reader's Service Coupon

Dry press block is quick and easy to produce and control because its blended in a SIMPSON MIX-MULLER at less than 5% moisture and then pressed out in a die.

15/Circle on Reader's Service Coupon

A new booklet by SIGNODE STEEL STRAPPING CO. tells how you can increase your profits by packaging brick. It enables you to improve your operation while reducing costs.

16/Circle on Reader's Service Coupon

HOW TO USE:

All you do is circle the number of the editorial item or the page number of the advertisement on this card, and mail it to us.

12-59

1 Henry Mfg. Co.
2 Hughes Electric Co.
3 Tay-San-Man Machine Co.
4 J. H. Day Co.
5 J. I. Case
6 Erlez Mfg. Co.
7 Minneapolis-Honeywell Co.
8 A. P. Green
12 Builders Equipment Co.
13 Denver Fire Clay Co.
14 Wellsville Fire Brick Co.
15 Simpson Mix-Muller
16 Signode Steel Strapping Co.
17 Mason Color & Chemical Works, Inc.
18 Stoody Co.
19 Ferro
20 Harbison-Walker Refractories Co.
21 Bickerstaff, Inc.
22 Aluminium Limited
23 Foundry & Machine Co., Inc.
24 Sanford-Day
25 Harrop Ceramic Service Co.
26 Williams Patent Crusher & Pulverizer Co.
27 Acme Steel Strapping
28 The Frank C. Hough Co.
29 R. G. Varner
30 Bristol Co.
31 Miller Equipment Co.
32 The North American Mfg. Co.
33 The Edward Orton Jr. Ceramic Foundation
34 Clearfield Machine Co.
35 Barber-Greene
36 American Truck Body Co.
37 Pearne and Lacy
38 Coors Porcelain Co.
39 American Zinc Sales Company
40 Tam
41 Chambers Bros.
42 Robinson Ventilating Co.
43 Swindell-Dressler
44 Allied Div. of Ferro Corp.
45 Kimberley Clark Corp.
46 Kaiser Aluminum
47 Ohio Kilns
48 Crescent Belt Fastener Co.
Page 10 Acme Steel Co.
Page 63 American Pulverizer Co.
Page 9 Barber-Greene
Page 59 Besser Co.
Page 7 Bickerstaff, Inc.
Page 2 Bonnot Co.
Page 49 Bradney Machine Co.
Page 59 Ceramic Color & Chemical Mfg. Co.
Page 17 Chambers Brothers Co.
Page 61 Chase Foundry & Mfg. Co.
Page 13 Chisholm, Boyd & White Co.
Page 68-69 Classified Ads
Page 62 Deister Concentrator Co.
Page 52 Des Moines Glove & Mfg. Co.
Page 30 Dodge Mfg. Co.
Page 72 Drakenfeld (B.F.) & Co.
Page 71 Fate-Root-Heath Co. (The)
Page 15 Ferro Corp.
Page 28 Green (A. P.) Fire Brick Co.
Page 12 Hanley Co.
Page 52 Hannon (F. R.) & Sons
Page 52 Hommel (O.) Co.
Page 47 Hughes (R. H.) Co.
Page 18 Kimberly-Clark Corp.
Page 16 Lanly Co. (The)
Page 64 Mason Color & Chamical Works
Page 3 Metal & Thermit Corp.
Page 6 Miller Equipment Co.
Page 14 Minneapolis-Honeywell Regulator Co.
Page 58 National Paint and Manganese Co.
Page 8 North State Pyrophyllite Co.
Page 63 Orefraction Minerals
Page 60 Pangborn Corp.
Page 64 Paris Mfg. Co.
Page 27 Pearne & Lacy Machine Co.
Page 50 Robeson Process Co.
Page 49 Rockfacer Co.
Page 65 Scandinavia Belting Co.
Page 4 Stanley Steel Strapping
Page 70 Steele (J.C.) & Sons
Page 46 Stoody Co.
Page 11 Titanium Alloy Mfg. Co.
Page 64 Tyler (W.S.) The
Page 59 Universal Vibrating Screen Co.
Page 29 Varner (R.G.) Co.
Page 50 Williams Patent Crusher & Pulverizer Co.

I'm also interested in those items shown in the Advertisements. Please have manufacturer send me literature and information.

Mfgrs Name _____

Mfgrs Name _____

NAME _____ TITLE _____

COMPANY _____

STREET _____

CITY _____ ZONE _____ STATE _____

This card void after February 29, 1960

American-made colors of precision—underglaze and overglaze colors—glaze stains—body and engobe stains—A product of MASON COLOR AND CHEMICAL WORKS, INC.

17/Circle on Reader's Service Coupon

STOODY CO. Borod holds augur edges longer. Is said to triple augur life, reduce downtime, ease extruder starts and cut power requirements.

18/Circle on Reader's Service Coupon

Lunar yellow Glaze stain by FERRO—a clean, green, lemon yellow needed for pure yellows and clean, blended colors in ceramic glazes.

19/Circle on Reader's Service Coupon

Car-top spanner tile by HARBISON-WALKER REFRACTORIES CO. developed for the special requirements of the under-fired car top construction. The fact that it renders dependable service in kilns used for firing face and common brick and sewer pipe at temperatures up to 2200°F. is attributable to certain enhanced physical properties.

20/Circle on Reader's Service Coupon

BICKERSTAFF, INC. fork trucks eliminated pallets and strapping. Increased kiln turnover. Reduces loading and unloading time.

21/Circle on Reader's Service Coupon

Supplying first quality calcined bauxite to major manufacturers of high alumina firebrick and super refractories. Organization is ALUMINUM LIMITED.

22/Circle on Reader's Service Coupon

Engineering, designing and building is offered by the FOUNDRY & MACHINE CO., INC. Gray Iron castings, car moving systems, hydraulic equipment, etc. are offered.

23/Circle on Reader's Service Coupon

Kiln car called S-D Floater by SANFORD-DAY were developed and proved in scores of kilns for trouble-free high temperature performance. Many sizes and styles are available.

24/Circle on Reader's Service Coupon

If you are considering the expansion of your present production facilities you may ask HARROP CERAMIC SERVICE CO.

25/Circle on Reader's Service Coupon

Complete size reduction from start to finished product is offered in a single Williams Hammer Mill available from WILLIAMS PATENT CRUSHER & PULVERIZER CO.

26/Circle on Reader's Service Coupon

Steel strapped brick reportedly saves builder time and money. This is a service of ACME STEEL STRAPPING. An Acme representative has all the information on their services.

27/Circle on Reader's Service Coupon

Payloader by THE FRANK G. HOUGH CO. is faster—operates easier. Can unload railcars, load trucks and cars, feed mullers, crushers, Charge hoppers, bins, conveyors, build stockpiles.

28/Circle on Reader's Service Coupon

A VARCO "Rigid Frame" steel building is built to last and to take it Gives you a better building for less money with fast service on every contract.

29/Circle on Reader's Service Coupon

Complete tunnel kiln instrumentation by the BRISTOL CO. Is said to be the key to higher quality, more uniform production and greater efficiency.

30/Circle on Reader's Service Coupon

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Brick & Clay RECORD NEWS REPORT

A complete, compact news section summarizing all developments for the industry's attention.

INDUSTRY NEWS
PRODUCT NEWS
READERS' COMMENTS
PRODUCTION IDEAS

Herb Shriner, (left) well-known humorist presents plaque to Doug Whitlock (right) in recognition of the Douglas Whitlock Student Aid Fund established to benefit students interested in pursuing a structural clay products curriculum in college. The fund, set up in connection with SCPI's 25-year celebration at the Greenbriar in White Sulphur Springs, W. Va. was the direct result of an idea originated and carried out by the Editors of BRICK AND CLAY RECORD. The contributions were made by members and non-members of SCPI, and presented to Whitlock in appreciation of his invaluable contributions to SCPI. Ernest Fender, past president of Acme Brick and chairman of the Awards Committee looks on approvingly. Several people have expressed a desire to give more than the prescribed $25.00. Contributions are still being accepted by the SCPI awards committee.

SCPI Elects Officers

Paul B. Belden, Jr., Ohio brick manufacturer, was elected 1959-60 President of the Structural Clay Products Institute at its Silver Anniversary Convention at the Greenbrier, White Sulphur Springs, W. Va. on November 17. Belden, who is President of the Belden Brick Co., Canton, Ohio, was Vice President of SCPI last year.

Neill Boldrick, President of the Acme Brick Co., Ft. Worth, Texas, was elected Vice President of SCPI. He has long been associated with the Institute's affairs and for the past several years has served as chairman of its Depletion Committee, guiding the clay products industry's tax depletion activities.

George Gammie, Vice President of the Illinois Brick Co., Chicago, was re-elected Treasurer of SCPI. He has also been a member of the Board of Directors for several years, representing Region 5 which includes Illinois, Indiana, Missouri and Wisconsin.

Joseph J. Cermak of the Washington, D. C. headquarters staff of SCPI was re-elected Secretary of the brick and tile makers' organization.

Douglas Whitlock, Washington, D. C. attorney, is Chairman of the Board and General Counsel.

(FOR A COMPLETE STORY AND FULL PHOTO COVERAGE ON THE SCPI MEET SEE STORY IN FEATURE SECTION.)

A Look at
The Latest in Industry News

Henderson Clay Products played host recently to brick manufacturers and ceramic engineers from England when the following men toured the plant at Henderson, Texas. Left to right are Michael Stedham, Development director engineer of Western Counties Brick Company, Dr. Astbury, Doctor of Science, Director-elect of British Ceramic Research Association of England, Morris Whitehouse, Chairman of the Association and Manager-Director of Sussex and Dorking Brick Company of England, Leslie Eke, Executive Secretary of Brick Development Association and Collin Atkinson, Geologist and Liaison Officer with British Ceramic Association.

John Dickey Resigns

John M. Dickey, Jr., Professional Engineer, announced his resignation as Plant Superintendent of the Hanley Company, Summerville, Pennsylvania, effective November 15, 1959.

Dickey is entering his own Engineering and Management Consulting Service, with offices located at Windy Knoll, Brookville, Pa., and will offer his services to the Structural Clay Products and other Ceramic Industries.

A Ceramic Engineering graduate, Dickey also holds a Master of Science degree, both awarded from the Ohio State University, Columbus, Ohio. He is a Registered Professional Engineer in Ohio and Pennsylvania, and is a member of the Pennsylvania Society of Professional Engineers, The National Society of Professional Engineers, The American Ceramic Society, National Institute of Ceramic Engineers, a board member of the Pennsylvania Ceramic Association, and a member of The Pittsburgh Section of the American Ceramic Society.

His background includes over three years of research for the National Clay Pipe Research Corporation two years of production operation and control; four years of glaze development, laboratory development, quality control, all in the brick and glazed structural tile industry, and for the past five and one-half years, he has been manager of the Hanley Company Plant at Summerville, Pa., with responsibility for the purchasing, equipment specification, layouts, mining practice, electrical installations, repairs, costs, labor negotiations, and all other management responsibilities, including construction coordination of new facilities, which have been in progress for over three years.

Southern Cal Brick People Announce Officers

The annual meeting of the Associated Brick Manufacturers of Southern California held recently in Los Angeles was highlighted by the re-election of H. C. Mathers, Van Nuys, president-treasurer; J. R. Higgins, Jr., Torrance, vice president; and John W. Rice, Jr., San Diego, secretary.

The ABMSC, established in 1945, is composed of prominent brick manufacturers between San Diego and Fresno who maintain an interest in the technical and economic advancement of brick masonry in this area.

Announce Free Courses At Besser Tech Center

Lyle B. Dowling, manager of the Besser School, part of Besser Technical Center in Alpena, Michigan, has announced the 1960 schedule of free technical courses for blockmakers and block users.

According to Dowling, conference lectures, practical demonstrations, and do-it-yourself sessions will be conducted on:

Electrical and Mechanical Preventive Maintenance.

Proper Selection, Grading, Proportioning, and Mixing of Aggregates.

New Product Opportunities.

Proper Use of Concrete Masonry.

Curing and Cubing.

Automation for New and Old Block Plants.

Based on previous enrollments, Besser Company expects more than 200 plant owners, engineers, managers, salesmen, foremen, and other plant personnel to attend the seven 11-day class periods scheduled for the Besser School in 1960. Applications now are being received for the January 4-15, February 1-12, and March 7-18 periods.

Further information can be obtained by writing to Lyle B. Dowling, Besser School, Besser Company, Alpena, Michigan.

Alexis P. Steele Sr. Passes Away

Alexis P. Steele (Sr.), 82, died in Statesville, N. C., recently. He had been in declining health for about seven years and in critical condition for more than three.

He was the last of the four sons of J. C. Steele who carried on the business their father had established in 1889. Graduating from North Carolina State College in 1898 with B.S. in both Civil and Mechanical Engineering, he was Chief Engineer for J. C. Steele & Sons until 1946, and since that time its president.

Perhaps the best known of his many machine designs for the firm are the end or "star" cutter popular during the first quarter of this century, and since that time the automatic sidecutter which now bears the Steele name.

Prizes Galore at Nebraska Brick Exhibit

The display booth at the recent Nebraska State Fair sponsored by the Bricklayers of Nebraska, Endicott Clay Products Co., Yankee Hill Brick Mfg. Co. and the Structural Clay Products Institute—Region 6 was a busy place. There was a total attendance of 10,000 for four brick barbeque grills to be given away as well as 85 sets of brick cuff links. The links were distributed to architects, brick union personnel, the governor of Nebraska, the mayor of Lincoln and as prizes to people who laid brick for SCPI.

Pictured here are (l-r) Joe Danek; Lincoln Mayor Bartlett Boyles; Mrs. Brooks, Nebraska Governor Brooks; Gene Staberg, president of the Lincoln Local, Stan Green, and Jerry Kraus.

Announce Installation of 42-inch Clay Pipe Made in Venice, Calif.

Reportedly the only bell and spigot Vitrified Clay Pipe with a 42″ diameter being made in the United States has been installed for the first time on the West Coast. The large 2500 lb. pipe which is being manufactured by Gladding, McBean & Co. has been used on projects in Los Angeles and Orange counties.

In installing a line of this 42″ diameter clay pipe in the ocean front area of Venice in Los Angeles, the D. B. S. Construction Co., in conjunction with Bob Stewart of the Hubbard Company, developed a new method of retaining the hot-pour compound in the annular space. Instead of the traditional running rope they are using a piece of sail cloth about eight inches wide and long enough to go around the circumference of the pipe. A pocket is sewn on each longitudinal edge of the cloth, and steel straps are threaded through these seams.

The cloth is then wrapped around the pipe with one edge going around the bell and the other edge around the adjacent spigot. The steel bands are drawn up tight with conventional strapping equipment, and a small gap is left between the ends of the cloth at the top of the pipe. A clay pouring gate is then formed in the regular manner at the opening, and the hot compound is poured in. These so-called "diapers" are then left in place and considered expendable.

Strandberg Named Div. Manager at H. K. Porter

Howard Strandberg was recently named New York District Sales Manager for Refractories Div. of H. K. Porter. He was previously exec.vp in charge of Operations for Seaboard Refractories Co., Fords, N. J.

Fire Ravages Dickey Plant in Birmingham, Ala.

A raging fire last month destroyed the W. S. Dickey Clay Mfg. Co. in North Birmingham, Ala. The fire started when an electric welder accidently set a hydraulic press on fire. The welder attempted to put out the flame but was unable to do so. After the blaze started oil in the press exploded, shooting flames throughout the southwest end of the building. Fireman said the building then caught fire like a match box.

General Shale's Shad Heath Leaves after 10 Years

Chad Heath, who has spent the last 10 years with General Shale announced his resignation recently. He is now with the Cherokee Brick Co.

Lupton Joins Chas. Taylor & Sons as Research and Development Engineer

Dale B. Lupton recently joined The Chas. Taylor Sons Co., Cincinnati, Ohio as a ceramic engineer assigned to the research and development department.

He is a graduate of the Georgia Institute of Technology with a B.S. in Ceramic Engineering.

L. R. Whitaker in Luxembourg

L. R. Whitaker better known as "Whit", and one of the most traveled people in our industry penned "BRICK and CLAY RECORD" a post card, this one coming from Luxembourg.

Grant Charter to American Co.

American Building Specialties Company, Inc., New Orleans, La. specializing in brick, glazed tile and other building materials, has been granted charter incorporation listing capital stock of $3,000.

J. L. Clough Named President By Clay Flue Lining Institute

James L. Clough, the Evans Brick Co., Uhrichsville, Ohio, has been elected president of the Clay Flue Lining Institute, succeeding the late C. L. Meanor, Clough formerly was vice president of CFLI, an association of 16 clay flue lining manufacturers, with plants and branches strategically located to serve the United States and Canada.

A. R. Thorson, Mill Hall Clay Products, Inc., Mill Hall, Pa., succeeds Clough as vice president. Other CFLI officers are Robert F. Larson, Natco Corp., Pittsburgh, Pa., secretary; and Philip E. Kopp, Malvern Flue Lining, Inc., Malvern, Ohio, treasurer.

Johnson Joins Staff of Battelle Institute

James E. Johnson has joined the staff of Battelle Memorial Institute and is now conducting research on refractory oxide ceramics. He comes to the Columbus (Ohio) research center from the AC Spark Plug Division of the General Motors Corporation.

While a graduate student at the Ohio State University, Johnson served as a research associate at the University's Engineering Experiment Station, conducting a survey of Ohio's clays and shales for use as lightweight concrete aggregates. He received B.S. and M.S. degrees, both in ceramic engineering, from Ohio State. Johnson is a member of the American Ceramic Society; the National Institute of Ceramic Engineers; and Sigma Xi, the national research honorary.

Evans Purchases Fla. Site For Plastic Pipe Plant

Purchase of a 30-acre industrial site in Leesburg, Fla., for the construction of a plastic pipe plant, is announced by Thomas J. Evans, III, president of the Evanite Plastic Co., a subsidiary of the Evans Pipe Co., Uhrichsville, Ohio. The new plastic pipe plant is expected to be in operation Feb. 1, 1960. Estimated cost is in excess of $200,000.

Personnel Changes Announced By Kaiser Refractories

Hal F. Randolph has been appointed general sales manager and Robert L. Petersen has been named assistant general sales manager of the Central Division of Kaiser Refractories & Chemicals, according to an announcement by Russel T. Drennan, director of sales. Both Randolph and Petersen will make their headquarters at Mexico, Missouri.

R. Petersen

H. Randolph

Randolph has been serving as office sales manager of the Mexico Refractories Company, Mexico, Mo.

A graduate of North Carolina State University in ceramic engineering, Randolph also received a M. S. degree in ceramics from Ohio State University. Since that time, he has been employed by the Mexico Refractories Company with the exception of four years spent with the U. S. Army. Since World War II, Randolph held various positions in the specialties division including production, design engineering and technical sales.

Jack T. Putnam has been appointed general sales manager of the Western Division of Kaiser Refractories & Chemicals, according to an announcement by Drennan.

Putnam will continue to make his headquarters at Oakland, California, where he has been serving as western regional sales manager. In his new position he will be responsible for the sales of all of the company's refractories and chemical products in 13 western states.

Ark. Brick Firm Open for Business

The Arkansas Brick and Supply Co., a partnership of Loyd W. Faust and Charles R. Hankins, opened for business recently in Little Rock, Ark. The new firm is the Arkansas distributor for the Natco Corp. It also handles the full line of products offered by five other brick manufacturers.

Name Charbonnier Tech. Assistant at Walsh

W. P. Charbonnier, formerly Manager for the St. Louis plant of Walsh Refractories Corporation, has been appointed Technical Assistant to J. J. Duggan, Vice President and Sales Manager, Glass Refractories Division, it was recently announced.

With a Bachelor of Science degree in Ceramic Engineering from the University of Illinois, Charbonnier has over 20 years experience in the manufacture of refractories for the glass industry by both the slip cast and more recently the fused cast method.

Clyde Bennett Dies Of Heart Attack

Clyde Bennett, president of Bennett Brick & Tile, Kings Mountain, N. C. passed away recently, the victim of a heart attack.

Minerva Adds Facilities to Produce Sized Fluorspar

Because of an increased demand by ceramics, glassware, and cement producers for fluorspar in varied sizings other than standard, the Minerva Company has set up facilities to produce special sizings. A choice of fluorspar ores of differing characteristics helps to achieve such variations. Extra coarse sizes have not heretofore been available from domestic processors. Regardless of sizings, chemical and screen analyses are made on Minerva shipments to control specifications requiring low iron, lead barite, sulphur, organics and other contaminants.

Special sizings can be produced in either the acid or ceramic grades of fluorspar. The special screening equipment has just been installed at the Crystal fluorspar mill of Minerva, near Elizabethtown, Illinois.

New Products

Reverse Mounted Loader

Reverse mounted loader, the RL-400 series is designed primarily for stock work. It features a self-loading bucket. The one-yard bucket is loaded by hydraulic power and does not depend on the traction of the tractor. Especially designed control valve enables the bucket to self level.

Henry Mfg. Co.

1/Circle on Reader's Service Coupon

Automatic Periodic Kiln Control

This program control will reportedly feed the proper mixture of gas and air to your kiln and hold to an exact firing curve from start to finish and then cut off the kiln automatically. Because it can add fuel precisely when the temperature fluctuation demands it, there are no lag periods in the kiln firing. Water-smoking and exidizing periods are automatically taken care of in minimum time.

Hughes Electric Co.

2/Circle on Reader's Service Coupon

Grinder

Called the Carousel, it requires only four foundation bolts and drainage for simple erection. Is available with three to five heads, each directly connected with 20 hp drive motors. Each head has individual hand adjustments for accuracy control. The machine is 60″ in dia., 9′8″ high having a maximum weight of 10,500 lbs. with three heads. With the Carousel's variable speed control, one operator can reportedly turn out from two to 14 units per minute.

Ty-San-Man Machine Co.

3/Circle on Reader's Service Coupon

Heavy Duty Dissolver

Heavy duty dissolver for mixing extra-viscous solutions. Known as the "Daysolver, this mixer is built with a heavy-duty steel column, frame and bridge, with oversize stainless steel propeller shaft, to provide smooth, vibrationless operation under extreme work loads. The bridge swings in a 240° arc, which makes it possible to mix one batch, with other drums of material positioned along the arc of swing, ready for mixing, thus making for practically continuous operation.

J. H. Day Co.

4/Circle on Reader's Service Coupon

Extended Lift Arms

Extra-long lift arms that provide greater clearance for dumping into high-sided trucks, railroad cars, tall hoppers are now available as optional equipment on Case W-9 and W-10

Terraload'rs. The new arms, two feet longer than standard, give both unit loaders a clear dump height of 11′6″ with bucket retracted, and 10′2″ with bucket fully dumped. Forward reach at 7-ft. lift height is 89″.

J. I. Case

5/Circle on Reader's Service Coupon

Heavy Bin Vibrator

A more powerful unit has been added to the line of Hi-Vi bin vibrators. The units are available in two types, the V3A-50P and V3A-50S. In the 50P the vibratory output is in the form of steel on steel, while in the 50S one of the impact elements is semiresilient to provide cushioned impact. The more powerful impact of these models is said to prevent clogging, sticking and bringing of stubborn materials in larger, heavier bins than those serviced by other V3A models.

Eriez Mfg. Co.

6/Circle on Reader's Service Coupon

New Literature

1959-60 *CDB* Source of The Latest and Best

BRICK AND CLAY RECORD is proud to announce the 1959-60 issue of *Ceramic Data Book*. This revised, up-to-date edition of the industry's only comprehensive buyers' director is already in the hands of interested readers.

This year more than ever *Ceramic Data Book* is the inseparable, day-to-day companion of ceramic plant operators and engineers concerned with modernization, expansion and efficient production. A carefully indexed compilation of products and manufacturers places the whole field of ceramic suppliers at the fingertips of the producer.

The volume also contains a revised and comprehensive set of charts and tables of technical data for the porcelain enamel, whiteware, glass, refractories, sewer pipe, brick and tile, electronic and newer ceramics, clay aggregate and clay block industries.

Of supreme importance to the reader of *Ceramic Data Book* are the suppliers' catalogs, wherein leading firms serving the ceramic industry present descriptive material on a wide variety of equipment and services.

CDB is one of the few tools of any industry which might rightly be termed indispensable.

Wet and dry bulb thermal system components and accessories are described in a four page sheet available from the Minneapolis-Honeywell Regulator Co.

7/Circle on Reader's Service Coupon

A. P. Green Refractory Products are described in a booklet recently released by this company.

8/Circle on Reader's Service Coupon

Palletizing manual covering the latest in recommended equipment and procedures for the palletized loading and shipment of all types of refractory products. The voluntary adoption of the methods outlined in the manual, by producer and consumer alike, has greatly facilitated the handling, loading, and shipment and inventory taking of refractory products. Cost is $1.50 per copy from The Refractories Institute, First National Bank Bldg., Pittsburgh, Pa.

Once again the time has come for the annual 1960 award contest for the best papers on refractories. The awards are sponsored by TRI. Winners will be announced at the yearly meeting at the Homestead, in Virginia in May. Listed below are the full details.

THE REFRACTORIES INSTITUTE
1960 ANNUAL AWARD CONTEST
FOR
The Best Papers on Refractories

The Factory Operators Committee of The Refractories Institute presents the terms and conditions of the 1960 Annual Award Contest for the best papers on any phase of refractories.

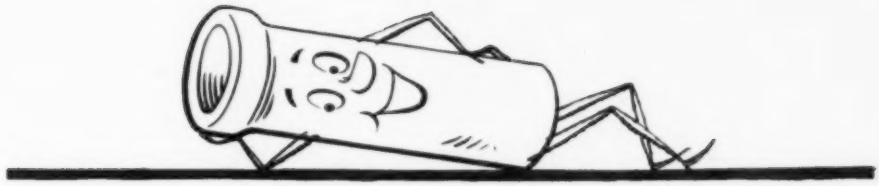
1. Who may participate? All hourly or salaried employees, except officers, of Active and Associate Members of The Refractories Institute are eligible to participate.

2. What are the subjects of the papers? Papers submitted for the contest may pertain to any phase of refractories, such as, but not limited to, raw materials, production methods, testing, research and development, training programs, safety, industrial relations, management techniques, etc.

3. How shall the papers be prepared? The papers should be limited to not more than 2500 words. Three unsigned typewritten copies of each competing paper must be submitted to reach the office of The Refractories Institute, First National Bank Building, Pittsburgh 22, Pa., not later than February 1, 1960. A letter must accompany the manuscripts giving the author's name, company address and title.

4. What are the awards? The award will be an engraved wrist watch, valued at $100, to be given to each of three men who submit the best papers, as selected by the judges. The authors of each of the prize winning papers will receive their awards at the 1960 Factory Operators Meeting. Text of their papers will be printed and distributed to the membership.

5. Who will determine the winners? The judges for the contest will be representatives of industry trade publications. Their selections will be made without prior knowledge of the names of the authors by having a code number assigned to each paper before submission to the judges.



EPITAPH OF A GRAND OLD PIPE

I am a very old length of vitrified clay pipe. Many, many years ago I was buried and soon forgotten. Countless thousands of feet have passed over my grave during the decades. I have existed with many others of my kind, who, as I, have gone down through the years serving the purpose for which we were created. If not disturbed in the march of time, I will still be fulfilling my destiny for hundreds of years to come. I have survived several generations of pipe made of other materials. I have seen iron pipe rust away and disintegrate, concrete and cement pipe eaten up with acids fall apart, all failing in the service of which I am everlasting. During the ages I have been buried and forgotten, many changes have taken place in the methods and means that were used in my creation. While I am only two feet long, the passing generations have increasingly developed to several times my length. I was created by the hands of master craftsmen, with only slight assistance from machines, which are now relics of an almost forgotten age. Many hands were required to handle me, trim and smooth my ragged edges. Weeks passed before I was dry enough to be vitrified by fire. Now very few men are required to produce the modern generation. Smooth and finished they are dried and ready to be tempered by fire the next day after they are created. Yet I will still survive to have them join me, immune to destruction by time or service.

Engineers and Manufacturers of Automatic Handling and Finishing Equipment for the Ceramic Industry.

P.O. Box 3366, Terminal Annex,
Los Angeles 54, California **Phone: CU 3-1268**

Eastern Representative
Dwight B. Hendryx, 6621 Darlington Rd., Pittsburgh, Pa.

PEARNE AND LACY INC. MACHINE COMPANY

A. P. GREEN

INSULATING FIREBRICK

CUT FUEL COSTS . . . INCREASE PRODUCTION IN PERIODIC KILNS

There has been a tremendous increase in the use of lightweight Insulating Firebrick for lining both round and rectangular down-draft kilns.

An average saving of 20% in fuel has resulted in kilns using Insulating Firebrick in only the kiln crowns. A 35% reduction in fuel costs was accomplished in a recent installation of A. P. Green G-26 Insulating Firebrick in the side walls and crown of a 28-foot diameter, coal-fired kiln.

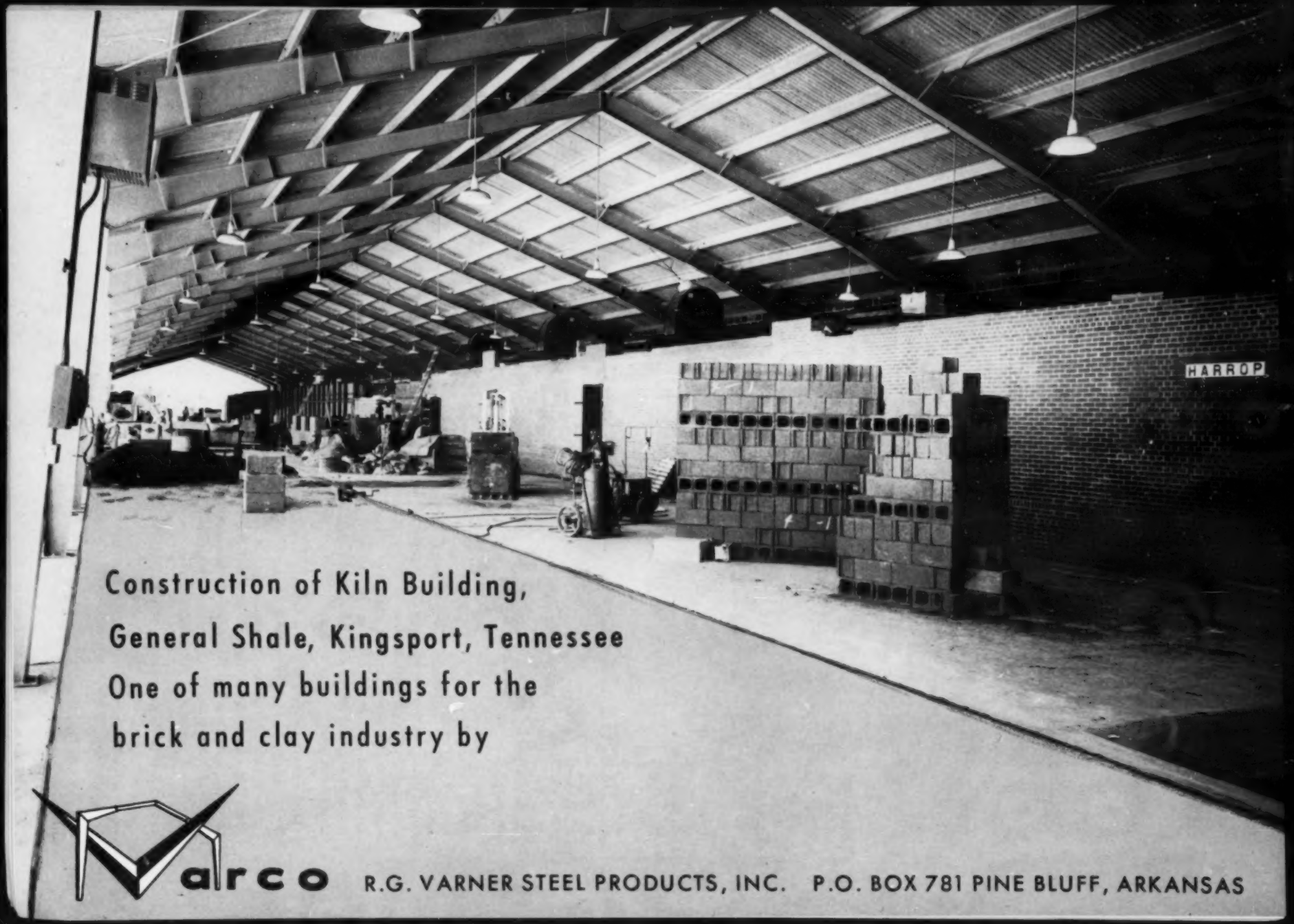
Other advantages of A. P. Green Insulating Firebrick in periodic kilns are—reduction in time of firing cycle because of the faster heating and cooling of the lightweight lining; more uniform heat distribution throughout the kiln and easier temperature control—resulting in fewer rejects and less breakage of the ware; more comfortable working conditions because of the faster cooling of the kiln; and ease of weatherproofing the much cooler crown with low melting asphalt base compounds.

Let your A. P. Green Representative assist you in selecting the proper quality of Insulating Firebrick for your kilns from A. P. Green's complete line—six different brick for temperatures from 2000° F. to 3200° F. He's listed in the classified section of your telephone directory . . . or write direct.

A. P. Green REFRACTORY PRODUCTS

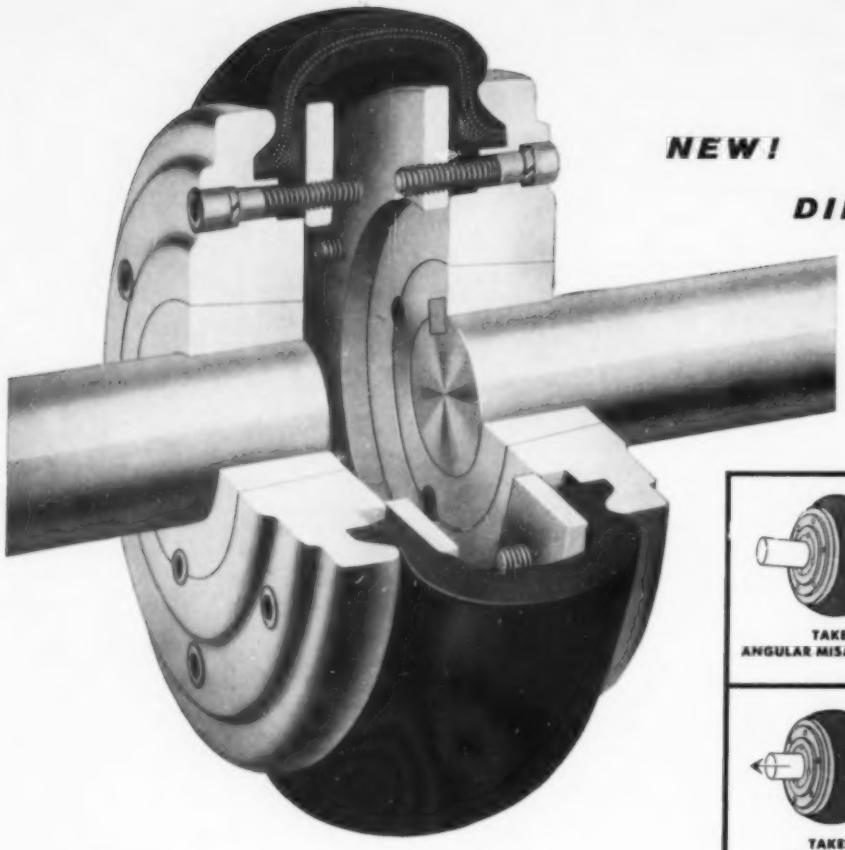
A. P. GREEN FIRE BRICK COMPANY

PLANTS: Mexico, Mo. • Woodbridge, N. J. • Sulphur Springs, Texas • Jackson, Oak Hill, South Webster, Ohio • Philadelphia, Climax, Pa. • Troy, Idaho • Pueblo, Colo. • Macon, Ga. • Birmingham, Ala.
IN CANADA: A. P. Green Fire Brick Co., Ltd., Toronto 15, Ontario



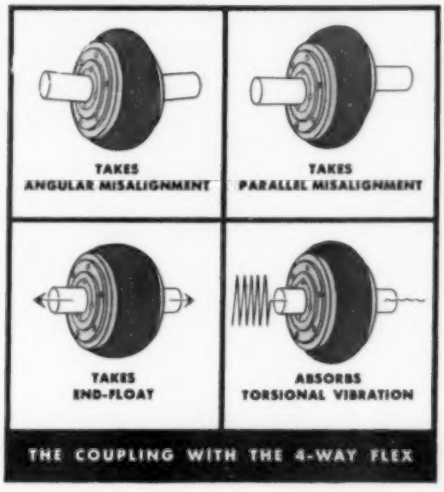
Construction of Kiln Building,
General Shale, Kingsport, Tennessee
One of many buildings for the
brick and clay industry by

Varco R.G. VARNER STEEL PRODUCTS, INC. P.O. BOX 781 PINE BLUFF, ARKANSAS



NEW!

DIFFERENT!



DODGE

Para-flex

FLEXIBLE CUSHION COUPLING

THIS coupling "swallows up" shaft misplacements. It automatically compensates for end-float, parallel misalignment, angular misalignment *or any combination of all three.* Moreover, it cushions the stresses of shock loads. And it absorbs torsional vibration—reducing noise and protecting machinery from vibration's destructive forces.

Here is a new type of performance—made possible by the development of a tire-like flexing element. Synthetic tension members, bonded together in rubber, give this element the stamina and dependability of modern, high-speed, high-load, shock-absorbing truck tires—and the ability to respond magically to all manner of changing shaft conditions.

Para-flex takes minimum space on the shaft. Mounting is simplified through the use of standard Taper-Lock bushings—no reboring, no machining. Safety is promoted by flush design; there are no protruding parts. No lubrication is required, no periodic inspection. And since the flexible member is molded with a transverse split, it can be replaced *without moving either the driver or driven machine.*

Para-flex Couplings are stocked by Dodge Distributors in popular transmission sizes. They are available from factory stock in capacities up to 2000 hp at 1080 rpm. Call your distributor for a coupling to *make your own test.* You'll witness something revolutionary!

DODGE MANUFACTURING CORPORATION, 4900 Union, Mishawaka, Ind.

DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."

A Question for the Steel Industry How About Everyone Else?

The steel industry, both from the standpoint of wages and prices, has gotten out of line with the remainder of our economy. According to Dr. Otto Eckstein's report to the Joint Congressional Economic Committee, if the steel industry spiral would have stayed within bounds and matched the increases in other goods and services, there would have been a 40% lower inflation.

The point of the whole matter is that all industries are affected by this steel industry rise in wages and prices.

As a result of this affect, other industries had to increase their wages and prices to stay in the labor market. In most cases the raises were not justified or compensated for by increases in productivity.

It follows therefore that, at this time, there is no justification for any further wage increases or price raises in the steel industry.

Just because one industry raises its wages indiscriminately and others follow, it doesn't mean that the raises are right. Two wrongs do not make a right.

It's up to the manufacturers and the general public to stiffen their opposition to indiscriminate raises. Even labor should object to this one industry racing out of line because labor, too, in general, is hurt by such maneuvers.

It Takes Work to Succeed

The November issue of BRICK & CLAY RECORD revealed a potential for the structural clay industry which assures its success "in the 60's". The industry has a good product, it has a potential market, it has research and the will to succeed.

But with all this power for success, it can be most elusive without action. Like a giant boulder poised on a mountain top ready to gain momentum as it starts rolling down the mountain, the brick industry also is set to gain momentum. In the case of the poised boulder, it must be pushed to start. The brick industry needs work to get rolling also.

There must be a strong effort to put the potential to work and plenty of follow up after that. Work and push and then work and push some more. Therein lies the key to ultimate success.

Walsh Executives Reveal Reasons For Launching FC101

A. J. Tomasek
President

The editors of Brick and Clay Record recently interviewed some of the top executives of Walsh Refractories Co., St. Louis, Mo. to establish the thinking and action taken by them in launching the new electrically cast block for use in the glass industry. This has been a major move on the part of Walsh and one which also was a considerable departure from their regular products. According to J. J. Duggan the success of the project is assured, for many plants have already installed the block on either a full scale or a test basis and are pleased with its performance. The editors, in this interview endeavored to capture the trials and tribulations encountered in starting a diversified program and the satisfactions attained after the job is on its feet.

Frank C. Steimke
Director of R/D

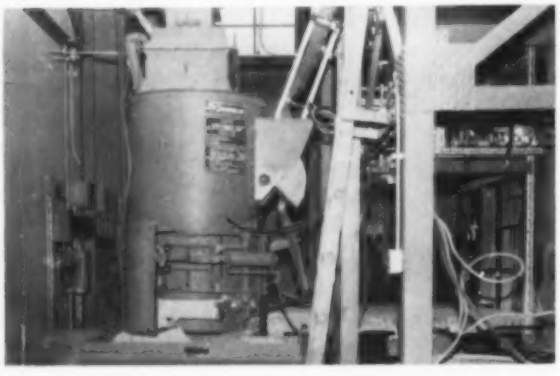
J. J. Duggan
V.P.-Sales
Glass Div.

A Talk With A. J. Tomasek

1. What were your reasons for going into the electrically cast refractories?

A. Essentially, our reasons were twofold: to be in a position of utmost service to our customers and to protect our own market.

We have always been producers of multiple grades of high temperature refractory products, because we have always felt that there is no all-encompassing refractory which would satisfactorily and economically satisfy all the operating conditions of heat enclosures. There are many forms of refractory attack present in glass melting furnaces. It is a well known fact that certain types and grades of refractories are more



Beardsley & Piper Speedmuller thoroughly mixes refractoring batch for mold box.

suitable than others for resisting specific forms of attack.

As specialists in glass furnace refractories, we are convinced that in order to attain not necessarily maximum (by virtue of expensive spot repairs) but the most economical furnace life, there must be a balanced use of the various types and grades of refractories. Recognizing the superiority of the proper fusion cast materials for some areas of a glass melting furnace and its potential, but equally conscious of the shortcomings of available products, we decided to develop our own. We have always taken pride in our position as suppliers of glass melting refractories of highest quality and have never had any intention of surrendering any of our market.

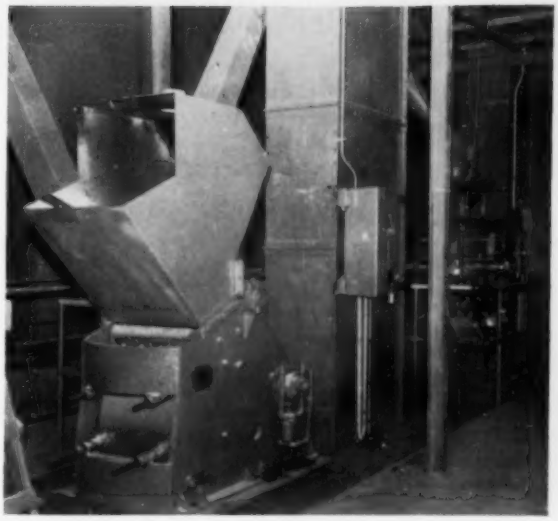
Having previously introduced our Zircon products, we are now in a position to offer and to submit to our customers choice, without bias, the proper refractory for each condition. By combining them in one shipment, savings in transportation costs are effected and divided responsibility is reduced.

2. What did this mean to you as an investment?

A. Our new fusion cast producing facilities represent an investment of over one and one-half million dollars.

3. What expenses were involved in preparing for this expansion in the way of research and development?

A. By adhering to our policy of introducing only quality products, our research program on fusion cast refractories had its inception prior to 1955, when a pilot plant was authorized for their development. The cost of the pilot plant and their research activity over these years represents an additional investment of considerable size.



A Pennsylvania Crusher prepares raw materials for melting.

4. Why did you locate in St. Louis?

A. St. Louis was the natural location for this expansion due to the facilities of our St. Louis plant which is devoted primarily to the production of glass contact refractories. Additional considerations were the central location with respect to the market and the availability of the necessary electric power and raw materials.

5. What did your market survey reveal to you as far as future markets and location?

Continued on next page

Heavy work is done with an American Monorail

A. Our surveys dictated our location with respect to the ever-growing domestic glass industry but, in addition, demonstrated advantages as to our central location with respect to Mexican, Canadian, Far Eastern and European markets. We are also in excellent position to service Latin America and other markets because of rapidly growing Gulf Coast ports.

6. Will your sales and contact staffs be increased?

A. While our present sales and contact staffs now completely cover the domestic and foreign markets, we have seen fit to expand our sales staff and our advertising program as well.

7. What future do you predict for the Glass Industry?

A. The record already shows the steady and rapid growth of the Glass industry, which embraces not only containers, automotive, and flat glass, but fibers, textiles, construction materials, and many other products made from glass. Despite the inroads of imported glass, the expansion of population and consumer income, combined with modern design trends and technological progress, should insure its continued growth.

8. What does this do to your clay block sales?

A. As I mentioned earlier, there is no satisfactory all-encompassing refractory from which a glass melting furnace can be built. Unless there is a radical change in composition and glass melting techniques, there will always be a market for clay blocks. Furnace production and life have been substantially increased through the improvement in quality of our clay blocks. This, and further extension of furnace life by the use of fusion cast materials in certain components of the furnace, all naturally tend to reduce clay block potential more than is offset by the growth of the industry. By offering fusion cast products, we are not only providing a greater service to our customers, but protecting our markets, which provide us with the means to continue the improvement of both clay and fusion cast products.

9. Will the glass industry be your only market for this new block?

A. While there is every possibility that other industries may find use for these products, our present composition and operation have been directed and developed primarily for the glass industry.

10. Is this a step in diversification or expansion?

A. This is a step in both diversification and expansion.

11. How do you propose to introduce the block in addition to the program you have launched upon?

A. Our consistent use of trade publication and direct mail advertising are selling tools used in conjunction with our personal sales efforts.

As a result, our new fused cast refractories enjoy wide recognition and acceptance. This program will continue. In addition to calling on our customers personally and contacting them through the medium of advertising, we have polished up the welcome signs that hang on the doors to our plant. This close personal association over the span of years has developed a feeling of understanding, confidence, and trust with our trade that we jealously protect.

A Talk With J. J. Duggan

1. To what extent would you distribute your block, that is, internationally or just nationally?

A. We fully anticipate selling our block throughout the world, just as we are doing with certain of our other products.

2. What is your capacity in the plant?

A. Plant's present capacity is 7500 tons a year.

3. Is this current capacity and can it be increased?

A. Yes, this is current capacity. With a minimum expense, this capacity can be doubled.

4. What motivated your getting into the business?

A. We have always recognized the merit of fusion cast material and felt confident that we could introduce a product that would be of considerable benefit to the glass industry.

5. What has been your reception so far?

A. The reception has been excellent. Currently, our materials are in service or on order in more than 40 glass manufacturing plants.

6. Where does this put your clay block?

A. We still intend to operate our clay block plant at full capacity. It is felt that there will always be a market for material of this nature.

7. Will this material have universal application?

A. We have developed a product which, in our judgment, is suitable for universal application, by that I mean sidewalls, paving, upper structure, etc.

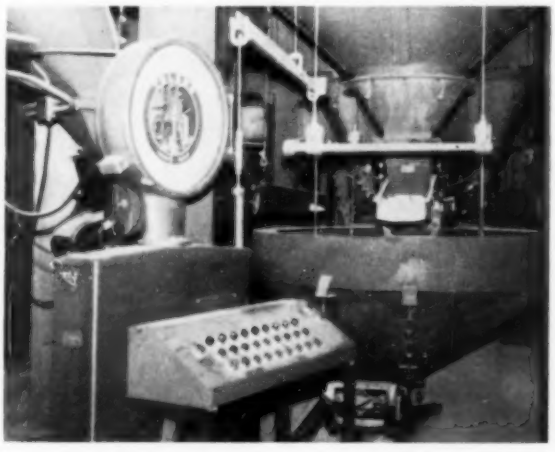
8. What about its dimensional accuracy?

A. We are very proud of the product we are turning out—our blocks are definitely accurate in dimensions.

9. Please elaborate on your shipping advantages?

A. We are in a position to furnish every type of refractory material for the glass industry with

Toledo batching system and scales automatically prepare block batch



the exception of basic brick. This means that our customer can purchase fusion cast material, flux block, sillimanite, Zircon, firebrick, and various other items all combined in one car, thereby saving packing costs ,trucking, or L.C.I. freight charges.

10. What are some of your claims for the product?
    A. We have extremely high purity, higher P.C.E., superior surface texture, and greater resistance to thermal shock.
11. How are you promoting and advertising?
    A. The bulk of our advertising has been employed in trade papers reaching the glass industry. We are also circularizing the trade with reprints of our advertisements and publicity in direct mail campaigns; these, in addition to our personal calls on our prospects and customers. We have also submitted samples of our product for examination and testing.
12. Do you welcome visitors to the plant?
    A. Visitors are cordially welcome. Clearance, in advance, should be obtained by contacting me.
13. Do you clean the block before shipping?
    A. We do clean up our block before shipping but find that this is not usually required in our product.
14. Are you going to be competitive in price?
    A. Yes, we fully anticipate being competitive pricewise.
15. What do you propose to do about quality control?
    A. From every cast made, a sample is retained. In addition, we keep a record of the date of each cast, the quantity cast, and all other pertinent data, thus, accurately controlling the two essentials, namely chemistry and melting.

A Talk With Frank C. Steimke

1) How do you insure non-contamination?
   Answer: By proper selection of raw materials and magnetic separators in various positions of raw material flow streams.
2) Have you applied automation in designing your plant?
   Answer: Automation has been employed as far as possible, always bearing in mind whether the gain by using automation would offset possible maintenance problems.
3) What is your electric consumption in the plant?
   Answer: Our power consumption would be equivalent to that used by a residential district or approximately 1500 homes.
4) Why did you choose your method for material handling?
   Answer: Our method provides a rapid means for unloading, moving and storing raw materials with minimum man power required for these operations. The handling system was designed so that maintenance problems would be held to a minimum.
5) Will you name some of your main supplies?
   Answer: Roura Dumper
   Towmotor
   Yale Hand Truck

Cast block in final stages of cooling

   American Mono Rail
   American Lift Hoist
   Bearsley & Pipe Speedmullor
   Syntron
   Toledo Scale
   Smith Turbo Mixer
   Toledo System for batching
   Nordberg Cone Crusher
   Pennsylvania Crusher
   Wheelco Instruments
   Pittsburgh Electromelt Furnace
   Goodyear Belting
   Manhattan Belting
   Chain Belt Conveyor
   G. E. Electric Controls
6) What are some raw materials sources?
   Answer: Sand from Wedron and Ottawa Silica
   Zircon Orefraction
   Soda Ash from Columbia Southern
   Aluminum Oxide from all three main suppliers
7) How frequently do you turn over your furnace?
   Answer: Three heats are made in approximately ten hours.
8) How long does the block remain in the casting mold?
   Answer: Block remains in the casting mold during the entire annealing period.
9) How long does the annealing operation take?
   Answer: Ten days to two weeks, depending on the size of the casting.
10) I noticed that you trim your block of any sand and burrs. Is this necessary?
    Answer: We attempt, as far as practical, to remove sand adhering to the casting after removal from the mold. The reason for this is to eliminate stones at the start up of a tank using new blocks. Burrs and other projections on the edges and corners of the block are removed to insure good joints in the tank.
11) How far back are you in shipments up to the present time?
    Answer: At the present production level we are just about able to keep up with shipping re-

Continued on page 58

SCPI Celebrates 25 Years

Highlights

Paul Belden, Jr. (pictured here) elected President for 1960! Optimism for 60's reigns! Several predict at least doubling of clay products business! Over two million homes per year forecast.

Optimism, enthusiasm, satisfaction and determination—these four words best describe the thinking and feeling of the large crowd that observed SCPI's 25 year anniversay at the Greenbrier in White Sulphur Springs, W. Va., Nov. 16-17.

Roy Wenzlick, Roy Wenzlick Research Corp., predicted an unprecedented boom in housing for the late 60's and early 70's. He attributed this to the population surge of 35 year olds at that time. The 35 year olds are the home buyers. In the meantime he predicted a rise in apartment construction to house the surge until they are in a position to buy homes.

Both Douglas Whitlock, General Council for SCPI, and Harry C. Bates, President BM and PIV, made reference to the construction of 2.5 million homes per year in the middle and late 60's.

Kenneth W. Dunwody, Cherokee Brick & Tile Co., Macon, Ga., and president of SCPI made reference to the depletion situation in his opening remarks.

"We have won (depletion) in seven district court circuits and have won five cases in the top courts. Now you will remember that I said the victory that *thus far* is ours. *By this statement I sound a warning.* The controversy is by no means over. Although the Supreme Court has refused to review the findings of the lower courts, the entire revenue act could be revised through legislation so as to eliminate depletion on clay entirely, and that is the next form of attack contemplated by the revenue service, and will probably start next month or maybe today.

A very refreshing approach to masonry was shown by Bernard Foerster, Asst. Professor, Rensselaer Polytechnic Inst., Troy, N. Y., and Casper S. Neer, AIA, Neer and Associates, Alexandria, Va. Foester's film put over the idea that clay masonry is modern and desirable. He insisted that the architect be approached from his creative style and appeal to his asthetic judgement. Convince him that masonry is not dead. The architect wants visual means of transmitted and not words. Show him the wide range of result that can be achieved.

Thomas F. Murphy, Treasurer, BM & PIV, pointed out that the union is conducting promotion on the local level and encouraging members to become mason contractors. The level promotion consists of 1) training manpower, 2) making mason contractors, 3) make use of Allied Masonry Council material, 4) cooperate with other groups, and 5) promote the entire industry.

Robert Taylor, director, Structural Clay Products Research Foundation, reviewed the outstanding accomplishments of research and dwelled on the prefabricated panel and structural panel. He told of the contractors who desired to manufacture the panel.

Both Harold Peterson, President MCAA, and William R. Conners, V. P. BM & PIU, verified the idea of

Douglas Whitlock, left, presenting award to Harry C. Bates accepting for BM and PIU. Whitlock presented several appreciation awards.

Harold W. Peterson receives award for Mason Contractors of America.

F. Sherman Breshears receives award for National Assn. Dealers and Distributors.

Edwin H. Davis receives special recognition for his untiring part in attaining the depletion results.

the mason contractor making the panels either in his shop or on the job. It would retain the work for the mason contractor and the mason who would be employed in its manufacture and erection. They are backing the panel to combat and retain panel construction.

Joe Kelley, President, Zonolite Co., Chicago, discussed the insulating of cavity walls with water repellent vermiculite. The Vermiculite Institute will spend a quarter of a million dollars promoting this idea. It will be in promotion, advertising, calls on contractors and architects.

John E. Clark, director of promotion for SCPI, demonstrated how SCPI will attack the market in the 1960's. He reviewed the proposed advertising program and then went into a demonstration of the promotion. It will consist of several slide films directed at various

James R. Platt, Director, Region 4, and Ronald S. Ryner, Director, Region 5 aided him in the demonstration. To the audience, this portion of the program was most revealing and interesting. It is probably the simplest yet effective sales tool yet produced by the department. Copies of the films will be available for use from every regional office. The films have little for assumption.

Henry J. Kaufman, President, Henry J. Kaufman and Associates, Washington, D. C., the new advertising agency for SCPI, expanded upon the need for communication with the customer.

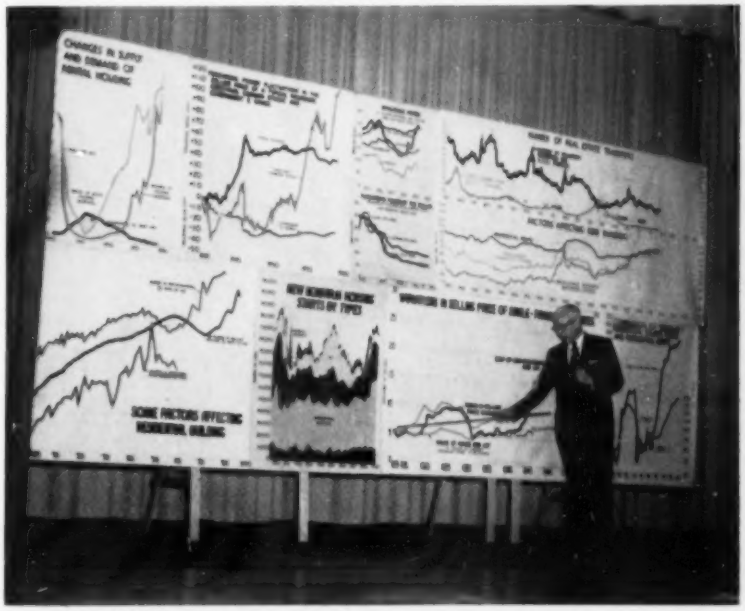
After remarks by John J. Murphy, BM & PIU, Douglas Whitlock summarized the meeting.

A very important and interesting project was revealed at the NADD meeting (National Association of Dealers and Distributors) concerning "market conversion". In this procedure, a survey of market area is made by supplier representatives and/or a trained SCPI field engineer. A diagnosis of the market is made based on the results of the survey—by the researcher, the sponsoring supplier and SCPI or NADD specialists. Corrective action is based on the diagnosis and carried out by the sponsoring suppliers with any help needed from SCPI and NADD.

The object is to convert home and non-residential building to clay products.

Separate meetings were also held by the regional engineers who discussed the promotion of the SCR panel and the research foundation.

(More pictures on next page)



Roy Wenzlick illustrates predicted rise in construction of apartments and homes in the 60's.

SCPI Meeting - 1959 Version...

You Are There!

Clay Pipe Group Stresses Research At Fall Meeting

A complete written report on the meeting will appear in the January issue of Brick & Clay Record

A. G. Cochran, S. Borland, E. H. Newman

R. J. Dyer *J. A. Bryant* *S. Borland*

Mr. and Mrs. H. Larson

An augmented research program, strengthened with additional personnel and streamlined from the standpoint of administration held the spotlight at the annual meeting of the National Clay Pipe Manufacturers Institute in Hot Springs, W. Va. recently. In addition to the business sessions of the Committees and the general membership meeting, the gathering enjoyed the annual banquet as well as a few rounds of golf.

A. J. Reed *E. L. Miller* *M. R. Hardin* *W. C. Boren*

G. A. Robinson *A. J. Reid*

S. Borland, F. J. Ortman, F. F. Steele, Jr.

G. B. McClyman, O. L. Dickinson

Holly Springs Plant Bases Design on Steps from Pit Control to Final Product

Control from the pit to finished product was the basis for design of the Holly Springs plant of Clay Products Inc., Mississippi's newest brick plant. With site work started in March of this year, and first shipments made in the first part of September, planning reached new levels of importance to all concerned.

The officers and personnel of the new plant drew on their experience at an associated plant, Southern Brick & Tile at nearby Byhalia to bring the new venture into fast effective production. Using similar material and time proven production techniques Clay Products was able to swing into regular production runs with a minimum of trial in spite of using a totally unexperienced production force.

Two types of clay are used for the production of brick. A buff burning clay is taken from a 55 acre tract located three miles from the plant and a sandy red burning material is taken from the plant site for blending to produce the pink colors that are part of the standard color line of the new operations. Pit work is contracted for on a cubic yard, delivered to the plant basis.

However, superintendent Blanton Jones and Kelso Kight, General Manager, have laid out the mining plan so that a regular supply of uniform clay is available to the production division during all seasons of the year. The mining proceeds in such a manner that the pit is self draining and no water is allowed to stand on any exposed clay.

Ten feet of sandy over-burden are removed from the deposit with a ½ yard drag line and dump trucks. A dozer is used to clean the top of the clay strata of all remaining overburden. Thirty feet of clay lies below with the top five feet of so being quite free from problems in production. However, the balance of the deposit is less workable and it is vastly improved by blending the top five feet into the lower strata.

An Allis-Chalmers tractor equipped with a front end loader and ripper blades is used to loosen the clay on a long slope that includes all strata of the bank being mined. After the clay is loosened, a Johnson Manufacturing Co. Paddle Wheel Loading Pan is used to move the clay to a central

Continued on page 44

Initial clay preparation takes place in this clay shreader where clay is moved to storage.

Four offbearers are used to handle (55,000) brick a day.

When possible brick are graded and loaded directly to trucks from kiln cars.

Front end loader is used to keep the three feeder bins full from stock piles.

Self loading pan, pulled by tractor takes a uniform cross section of pit. Equipment in background is stripping over burden.

pile where the tractor is used to load dump trucks for transportation to the plant. The self-loading pan is pulled by a Minneapolis-Moline rubber mounted tractor with a power take off operating the paddles that load the pan.

Three of four dump trucks of seven ton capacity are used when the pit is being worked. The use of the outside contractor in this operation makes a greater amount of expensive earth-moving equipment available, making for more efficiency as well as better control of raw clay as it is mined according to plan. Large areas of clay are constantly exposed and in all but the worse weather the top few inches remain dry and after it rains, quickly drains and becomes workable.

On arrival at the plant, clay trucks are logged in and the load is dumped into a Gleason Clay Shreader. This unit is a pre-grinder and acts as a feeder for the raw clay storage conveyor. It is driven with a 40 hp motor and requires but 3½ minutes to reduce the seven ton load of clay to 1½ inch, and under pieces. The discharge from the Shreader falls onto a 24″ conveyor set at right angles to the clay storage building.

This conveyor, 160 feet in length elevates the presized clay to the top of this building where a shuttle conveyor receives it and distributes it in the selected area. The clay storage building is 80 x 120 feet and the shuttle discharges from a point 40 feet above the ground level. Four feet of earth was removed from the floor of this shed before it was filled to extend the storage capacity. At the rated output, over two months supply of clay is under cover and available when the shed is full.

Other storage is provided with clay piles at the pit site. These are protected from water with plastic covers and offer a reserve if long extended periods of bad weather would deny access to the pit itself.

The spreading of shreaded clay over the large piles in the shed also furthers the plan of putting a uniform raw material into the production processes.

Grinding at Clay Products includes equipment just now being introduced into the brick industry. Three bins, one for buff, one for the red blending clay and one for grog are installed. Each bin is served with a Jeffrey "Waytrol" and a vibrating feeder. These units can be set to deliver a predetermined quantity of clay or grog accurate to within a fraction of 1%. The grog feeder is designed to deliver from 1 to 12 tons per hour and the clay feeders from 5 to 50.

In operation the "Waytrol" weighs the material moving on the constant speed conveyor belt that feeds from the bin to the grinding section. If the weight is under the set amount, a motor activated reostat is automatically adjusted to increase the driving force on the vibratory feeders. As the volume of clay increases above the set quantity the reostat is retarded. The process is automatic and once adjusted needs no further attention or supervision.

Grog is added at a 12% rate to both the buff and pink blends. Currently a jaw crusher is used to supply this material. Construction is underway of a 6 x 60 foot rotary kiln installation to supply calcined clay for this use as a high rate of recovery has required the operators to crush much saleable brick for use as grog. It is planned to treat clay to about 1600-1700° and add this in place of the more expensive grog.

Grog and clay are loaded into the bins from the storage piles with a Michigan loader using a one yard bucket. They are then moved by conveyor belt to a Miller double hammer mill. Two 40 H.P. motors are used for power on this unit. The discharged material is moved back across the grinding room to a pair of 4 x 8 foot Overstrom screens. These are equipped with eight mesh screens and are both vibrated and electrically heated for top production rates. Oversize material falls onto the hammer mill feed belt while that passing is moved by a third back across the grinding room to the ground clay storage bin. This is a round steel bin holding 75 tons of ground brick ma-

New "Waytrol" feeders maintain constant flow of clay to hammer mill.

terial and uses a Steele Even Clay Feeder to put the selected amount of clay on the conveyor moving to the mill room.

Two accurate belt feeding poidometers have been installed to handle the ½ of 1% barium carbonate addition and what ever manganese dioxide that is required for various grey runs.

The clay feeder, delivery belt and additive feeders are electrically interlocked and controlled from the mill room.

Fluctuations of water supply pressure at the plant have been eliminated at the pugger with the installation of a surge tank and high pressure pumps. An electrically actuated solenoid water valve on the pug water line makes it possible for a single man to tend the cutter and pugger. Accurate feeding of clay and pugging water allows this part of the operation to proceed for long periods without minute adjustments being constantly required. The brick machine is a Steele 40F, powered with 200 H.P. It is equipped with an air operated clutch and brick are extruded through an oil lubricated die under 24-28 inches of vacuum. A #18 cutter is used with interchangeable reels available for Norman and Roman size brick. The plant, shipping both north and south manufacturers both standard and modular brick with production about evenly divided.

The manufacturing machinery is housed in a steel trussed iron sheeted building 30 x 80 that also connects the grinding building, some 60 x 80 feet, to the kiln building. The latter is 65 by 475 feet, all clear span.

Four off-bearers are used to load some 60,000 brick a day from the belt to kiln cars. Four loading tracks have been provided. Cars are pushed through the loading station manually by a single man who also cleans the cars and realigns the top blocks before the cars are reloaded. Loaded cars, each holding 2850 standard brick are stored in the open until needed in the drier.

The cars are 6 x 9 feet built by Hyatt roller bearings and use Paco perimeter blocks, Lumnite concrete centers and Paco top block. Standard setting is 16 brick high.

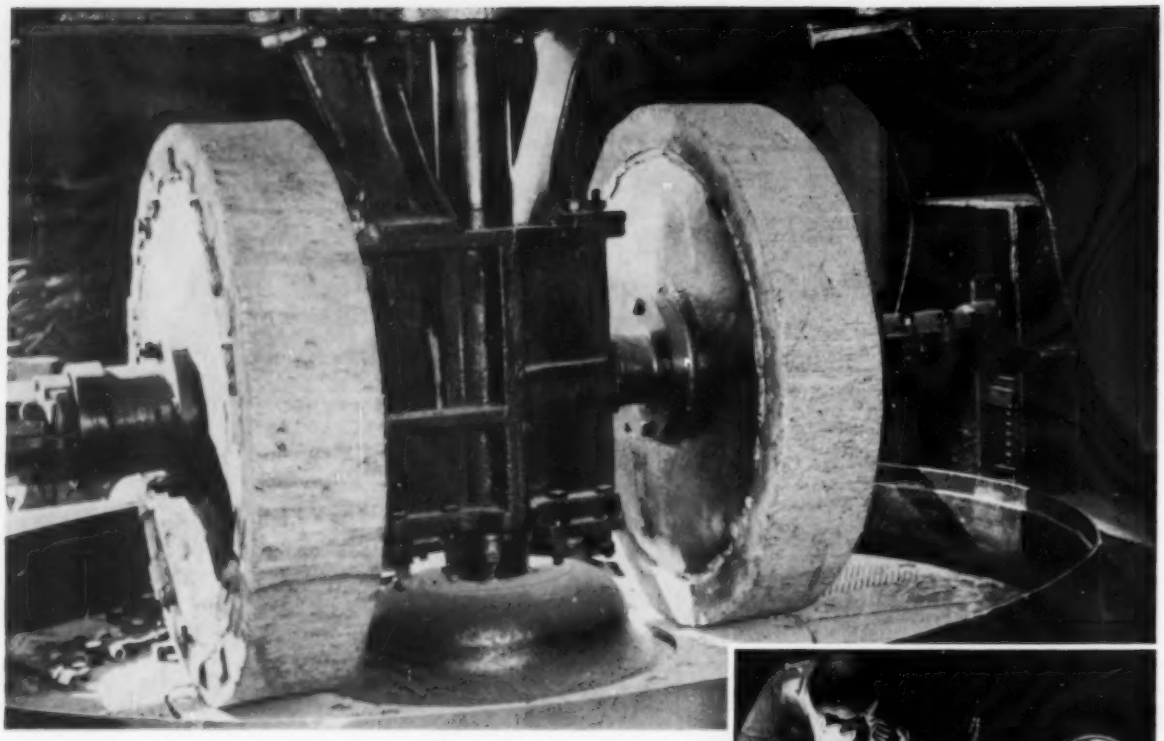
The Harrop tunnel kiln and dryer incorporate several new features. The dryer is 130 feet long and is a twin tunnel unit. However, each tunnel is independently controlled insofar as the drying curve is concerned. Four 5 H.P. Robinson Ventilating fans are used for recirculation and one exhaust fan are used on each tunnel. These allow the operators to make small adjustment in the control settings and then note the results almost immediately. Circulation through the drying brick is generally diagonal from the bottom of the setting on one side of the car to the top on the opposite side. Hot air from the cooling section of the kiln is delivered to the dryer at 425° and is exhausted from the cool end of the dryer at 115°. The pushers are hydraulic and were supplied by Engineering Associates.

Ultimate Capacity Untested

The kiln is 259 feet long and was designed for 30,000 brick a day, a quantity that is being exceeded by about 30% currently with no test of ultimate capacity having yet been made. The kiln is self charging. A car of dry brick are set on the manual transfer in front of the charging zone and when a limit switch is contacted by the advancing train of cars signalling the charging period the system goes into operation automatically. A guillotine door is raised, the pushing ram retracts to catch the kiln car setting on the transfer car outside the kiln and pushes the car into the kiln. The door then closes. While this one minute operation is taking place a bell rings alerting the kiln tender to the need for a new car of dry block and the necessity of drawing one car of fired brick from the exit end of the kiln.

The pre-heat zone of the kiln is 100 feet long and has two recirculation fans installed for control of the temperature curve in the section. Sixteen excess air burners, eight on each side of the kiln are used to add additional heat to this section. The fur-

Continued on page 47



MULLER TIRES *are manually hard-faced with Stoody 21 or Coated Tube Stoodite. For semi-automatic application on muller tires or plows (shown above) use Stoody 100 or Stoody 121. Hard-faced muller tires wear far more uniformly, resist cupping, hence pulverize material quicker. Service life is often tripled on each application.*

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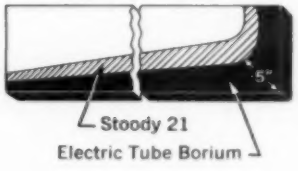
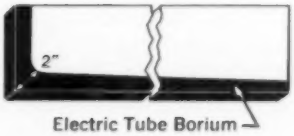


BACK VIEW



MULLER PLOWS *receive extreme protection against abrasive wear by coating front face with a layer of Stoody 21. This is followed on both front and back faces as well as on bottom and outer edge with an overlay of Electric Tube Borium.*

Continued from page 45

nace section is 72 feet long and uses 16 North American burners. Half of the burner positions are double fired with the upper burners set on an angle up and over the car. Control is through a Brown instrument recording control. A maturing temperature of 2240° is maintained to a plus or minus 10°.

A constant air pressure of 23 ounces is maintained on the combustion air supply with a 50 H.P. blower and actual control is maintained by moving the gas pressure from three to eight ounces. At the higher pressure ideal combustion is maintained for about two minutes and the heat input has been balanced so the lower pressure, high excess air period also runs about two minutes. Alternate high and low excess periods have been determined as being effective in reducing dunting and other damage to the brick.

Temperature Increase 20°

Flashing with raw natural gas injected into the kiln between the furnace section and the quick cooling zone increases the temperature at that point 20°. Four gas lances are used on each side of the kiln to handle this input.

Following the quick cooling zone, recirculation with one fan in the cooling section maintains the desired cooling curve. No standby fuel is provided although the plant is using ineruptable gas from the Tennessee Gas Transmission Co. supplied through the Holly Springs city system. The kiln is protected from power or gas failure by automatic systems that shut the kiln down when outage occurs.

Mechanize Handling

Handling of fired brick has been mechanized for fork truck handling.Offbearers set in forktruck cubes and these can be graded and loaded directly from the kiln cars to trucks or placed in stock with the Clark fork trucks for later grading when required. Ample area under roof has been made available for truck loading. In the event of loading from stock the grading operation is handled on the truck bed with high efficiency and minimum handling losses. About 50% of the plant's shipments have gone out by truck, the balance over the Frisco Railroad.

Sales are being handled through the Southern Brick & Tile Co. at Byhalia. A back log of orders was available as soon as the plant was put into operation. It is expected that the highly accurate controls designed into the plant will enable it to produce a range of highly desirable colors with close limits on the range. Standard colors of Pink, Grey, Clear and Flased Buff have been adopted and are made in all sizes of the plant's products.

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* *Patents Pending on the control system.*

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Phone: CA 4-1007

William Curry project engineer looks on while President Albert Swank holds firing cams.

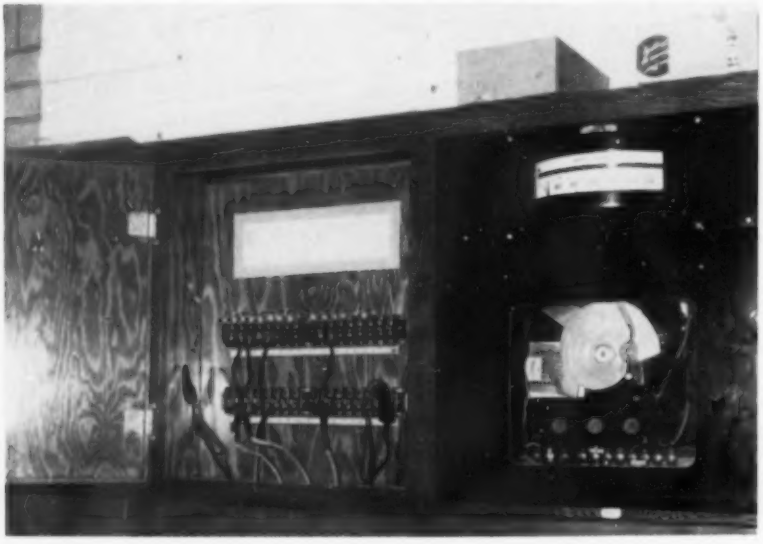
How Swank Fires Automatically

Development of an automatic kiln firing system for periodic kilns at the Johnstown plant of the Hiram Swank's Sons Co. was started in 1957. This plant located on the edge of Johnstown, Pa., produces a line of sleeves and nozzles for the metal trades in addition to other specialty items.

All research is concentrated here for the four plants of the company under the supervision of a research director. Fourteen gas fired rectangular kilns are operated in addition to a circular tunnel kiln. The wide range of product sizes and different mixes of raw materials used for production mitigates against the use of additional tunnel kiln capacity. The president of the company, Albert Swank, felt that an improvement in technique of firing periodic kilns would result in worthwhile savings of direct costs and would produce a more uniform product. He assigned William Curry the research director to a study of the problem.

A single kiln was set aside for experimentation and Curry contacted R. H. Hughes of Columbus, Ohio who had previously cooperated with the company in other instances where instrumentation was under study. It was decided to automate the firing

Continued on page 51



Junction box and one of the control instruments.

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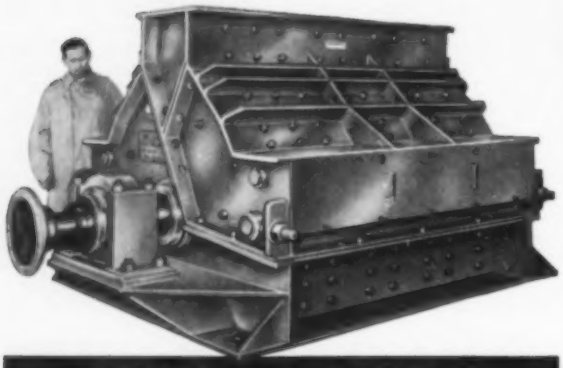

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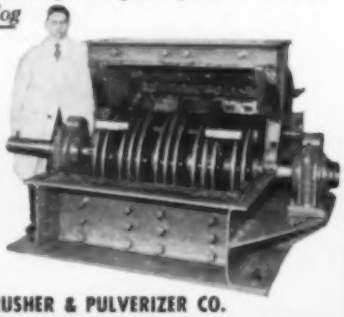

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Continued from page 48

of the kiln completely and Curry and Hughes proceeded to make the necessary plans and determinations.

A new controller was developed by Hughes and supplied to the plant. A standard chromel-alumnel thermocouple was installed with the usual protection tube in the middle of the crown of the test kiln and a North American motorized Vari-Port valve was placed in the gas line of the test kiln. The first firing of the kiln brought out several shortcomings of the original set up. The conventionally protected chromel-alumnel couple did not respond to the changes in kiln temperature fast enough to prevent the gas valve from moving between a wide open and the nominally closed position on the cycles of control.

Remove Protective Tube

The protective tube was removed from the couple in the crown of the kiln, changes were made in the controller and the rate of travel of the motorized valve was made much slower. The kiln came under control nicely with these changes and an additional kiln was equipped with the modified couple and valve. During the summer of 1957 the two kilns were fired alternately with the same controller and after each kiln had been fired 20 or so times, it was decided to install the system on all 14 of the rectangular kilns.

Fortunately space was available in the plant office section of the centrally located production building. This area was air conditioned and seven of the kiln temperature controllers were installed. All of the remaining kilns were equipped with the acceptable chromel-alumnel thermocouple and valves were installed. The extension wires from the nearest kilns were compensated to the same resistance of the longest run in order that any controller could be used for any of the 14 kilns.

Switch gear was installed in enclosed cabinets. Incoming thermocouple wires are brought to one panel and the connection to adjacent controller panel is made with jumpers. This simple method was chosen in order that the complete flexibility of controller and kiln pairing could be maintained without hoplelessly complicating the switching station.

The operating signal from the controller is carried through a three conductor cable to the motor panel and the connection of the operating controller to the proper kiln valve is made by plugging the controller line into the proper receptacle.

The time movement of the controller is a seven day cycle and this can be extended to an eight day firing curve that is sometimes required for a few of the products. A cam for each firing curve required for all the variations of material and size of product has been out from heavy gauge aluminum sheets. In the case of firing cycles of longer than seven days the cam is slotted under the step to provide for the extra hours or days.

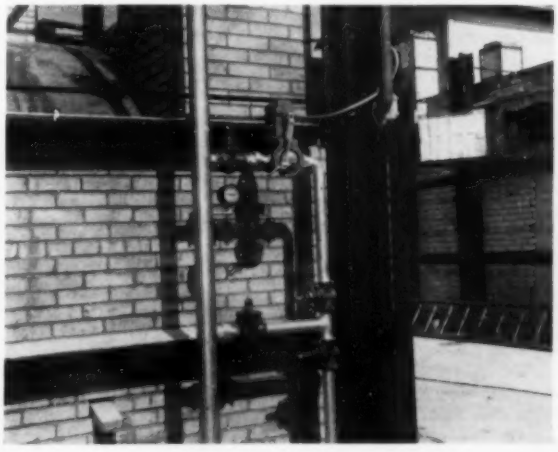
Each 1/64th of an inch on the cam represents 20° in the kiln. A desired curve is traced on sheet aluminum and the excess metal is cut off with shears. The cam is placed on the controller and the control lever is placed at the start of the firing curve. The lever operates a potentiometer on one leg of a bridge circuit. The other leg is controlled by the thermocouple circuit. If the signal received from the kiln is lower than that called for by the cam, an unbalanced condition exists in the bridge circuit and this condition is amplified and sent from the controller as an activating signal to the motor on the gas valve at the kiln and the valve opens very slightly and very slowly.

As soon as the couple in the kiln responds to the slight increase in the heat input the bridge either becomes balanced or unbalanced in the other direction and the signal from the controller then ceases or is reversed to slightly close the valve. The latest valves that have been installed require one hour to open from the closed position and this speed in connection with the bare thermocouple produces a smooth firing curve in the kiln.

The immediate result in the installation at Johnstown was to reduce the consumption of gas in significant amounts. At the same time sleeves and nozzles were much more uniform from kiln to kiln due to the reproducibility of the firing curve. Customer satisfaction was increased and the cull rate was reduced.

No change was required in the aspirating burners that have always been used on the periodic kilns at the plant. These units are down draft with individual stacks built into the walls of each kiln. Eight burners, four on each side are used on each kiln and these are manifolded into a single supply line in which the control valve is located. After the eight burners are adjusted and balanced as to heat input no further attention is required during or between burns. High pressure gas is furnished to the plant and this is reduced to a standard pressure for use throughout the plants. During the final hours of the burn, gas pressure at the burner is about six lbs. and the motorized control valve is nearly open.

In case of power failure the entire control system goes out of action without changing the valve setting. This stops the rise of heat in the kiln but does not allow it to fall. When power is restored the system again takes control and the burn is completed without serious damage to the contents of the kiln.



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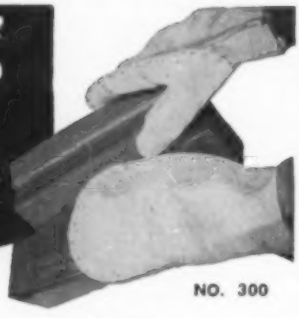

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Southeastern Conference Rings Bell With Production Men

It is called a Southeastern Clay Plant Operators' Forum, but the fifth annual one completed at N. C. State College in Raleigh (Oct. 19-21) was far from regional in scope, with over a hundred delegates from all over the United States attending.

The conferences, sponsored jointly by Southern Brick & Tile Manufacturers Association and Brick & Tile Service, Inc., alternate each year between Clemson College in South Carolina and N. C. State College. They differ from the general run of technical meetings in that each year a central theme is chosen to answer some timely need of the industry. This time the theme was production, covering various phases of how to get more production out of existing plant facilities. And in the words of one of the planners of the meet: "Nothing should be sweeter music to the harassed operator of an oversold plant than to be told how he can increase output without running to the boss to finance new facilities—provided said operator is willing to learn from an exchange of ideas and discard that old alibi that his material is hopelessly different."

The first day was devoted to solving some of the problems which cause lost production. R. F. Grady amazed the audience with news that A. P. Green Fire Brick Company has had one tunnel kiln running constantly for 14 years, and another now in its 8th year without a shutdown for repairs. Summing up the reasons for such longevity, the speaker attributed it primarily to three basic reasons: proper refractories selection; special attention to foundations and sub-soil bearing; and careful avoidance of too-sharp temperature changes when heating up or cooling down. North State Pyrophyllite's E. H. Jeffries also pursued the maintenance line of attack and decried the economic waste attributable to kiln car repairs. According to Jeffries, anyone with a car top maintenance cost running above 15c per thousand brick should take a look to see what's wrong.

There is far more to oil and grease than one might think, too, according to a speaker from Texaco, Inc. This

(*Continued on page* 60)

L. R. Whitaker, W. W. Kriegel and Gil Robinson were among the many who attended the SE conference. Whitaker recounts some unusual forming methods he has noted in his European visits.

Minute Money Makers

A practical and quick description of some ideas that may save you much needed time in your operation.

Making a Short Center Drive Work

Frequently it is impossible to allow sufficient space between a machine pulley and the motor driving pulley to take full advantage of the power unit. It would be possible if a wide enough pulley were employed. But usually the room for pulleys is limited.

The solution to such a problem is shown in the photo. In this case, the pulley on the pug mill was grooved. The grooves were about $\frac{3}{8}$ inch apart and $\frac{3}{8}$ inch deep. The flat belt was able to grip the pulley so well that no change in the motor size was so satisfactory and successful that future drives will be planned in this manner at this plant.

Proper Tile Stacking

Systematic loading of tunnel cars is important to getting payloads through the kiln. Here is a suggested and a successful method of loading drain tile on an Ohio kiln.

Note that the tile are set solidly together on the car. The first two layers are set one atop the other so that the tile openings correspond.

The third layer is set off center to act as a tie for the entire load. The fourth and final layer is also set off center, insuring a perfectly tied and solid load.

The car is set to maximum capacity and in such a way that heat can readily penetrate the setting for fast firing.

Minute Money Makers

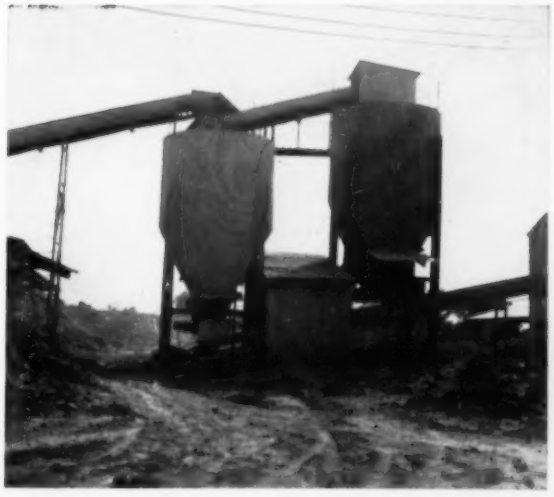
Speed Up Brick Grading

Grading of brick is facilitated by the use of a conveyor system in this plant. Two men are used to take brick from the tunnel kiln cars. These men throw out all broken and cull brick and put sound brick onto the conveyor. Four men then select the brick that fall within the proper color ranges and put them into cubes for movement to truck, car or storage.

Stockpiling inventory with fork trucks equipped with attachments permitting self-pallettazation gives the user important handling economies as well as an increase in customer service. By cutting the loading time of trucks the equipment can be utilized to a much better advantage. Reducing the number of workers on this peak labor job allows the operator of a plant to reduce the total pay-roll.

Clay Bins Can Feed Better

Clay bins of circular cross section can be made to feed much better if the lower portion of the tank is altered to provide steep planes intersecting the circular walls. The plain steel plates are set at an angle greater than the angle of repose for the clay and the resulting slot in the bottom is fitted with an apron or belt feeder. By varying the speed of the belt or changing the cross section of the exit side of the bin the amount of clay being fed can be controlled.



Continued from page 35

quirements. We will shortly increase production about 33% which should meet the anticipated increase in demand for the material.

A Talk With Frank C. Steimke

1) What obstacles did you encounter in developing your formula?

Answer: The primary concern in the development of the product was a refractory which had excellent resistance to glass attack, good thermal shock properties, and little tendency to give off gas or foreign matter into the glass as seeds or stones.

2) Did you seek to develop an economic and efficient product?

Answer: We sought within the limits of electric furnace operation to develop a material which would be economically attractive to us and at the same time do an outstanding job for the glass producers.

3) What facilities did you employ to gain your development?

Answer: Complete pilot plant facilities were installed which duplicated, on a smaller scale, the later commercial facilities.

4) How long did it take?

Answer: Five years from the time the project was started.

5) Are you continuing to do research?

Answer: Research is actually being expanded since the commercial production has started. Our primary research efforts at the present are directed toward seeing that every casting from the furnace is of the proper quality. Continued effort is being spent also on new compositions.

6) What is the technical background for the composition you used?

Answer: The composition used is based on the known resistance of zirconia-alumina compositions to glass attack and solution. This is coupled with high purity and a glassy matrix of high refractoriness.

7) What were some of your problems in the transition from pilot to plant production?

Answer: Transition from pilot to plant production was smoother than anticipated. The primary problem has been getting all components of the plant operating at a uniform production level.

8) What are some of the outstanding properties?

Answer: This has already been covered previously. To repeat, a fused cast glass contact refractory with excellent resistance to glass attack, high purity and little tendency to cause defects in the glass.

9) Do you have outside help now and from technical consultants and so forth?

Answer: We have had limited help from outside technical consultants on this project.

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- **Magnetite**
- **Chromite**
- **Manganese**

We have recently built a completely modern plant in Brownsville, Texas, to process minerals for the brick trade to size and high chemical specifications. Custom grinding facilities are available.

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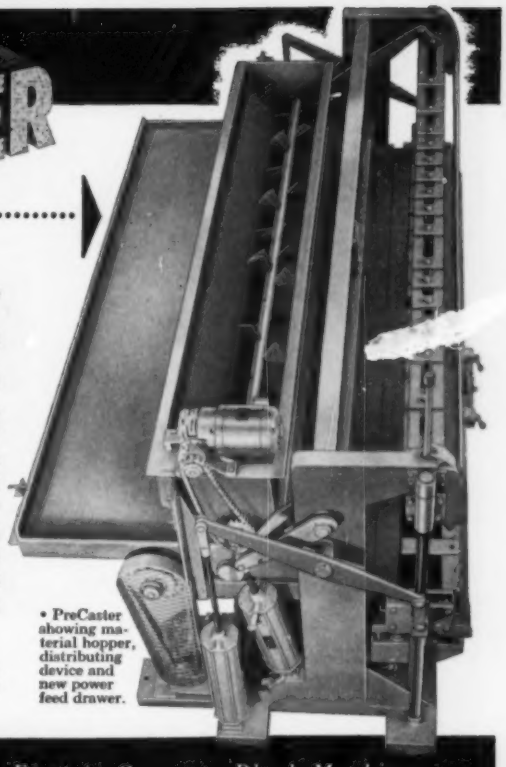

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Pangborn Brick Sanding Machine produces colored brick at low cost

In line with the growing demand for sand-coated brick, progressive brick producers are installing Pangborn Brick Sanding Machines. Designed to fit over the pug mill-to-cutter conveyor, this special cabinet uses air blast nozzles to coat the top and sides of the "green" column with colored sand.

It operates quickly—producing 12,000 to 13,000 sand-coated bricks per hour—and permits versatility of use. For example, it utilizes eight nozzles for Norman brick, adjusts quickly to six nozzles for efficient coating of standard brick. Also it handles screened particles for special effects. Brick manufacturers express complete satisfaction with this special Pangborn Cabinet . . . and the increased saleability it has given brick products.

Ask the Pangborn man in your area for details on Pangborn Brick Sanding Machines or write PANGBORN CORPORATION, 790 Pangborn Blvd., Hagerstown, Md. *Manufacturers of Blast Cleaning and Dust Control Equipment —Rotoblast Steel Shot and Grit.*

Pangborn **BLAST CLEANING EQUIPMENT**

Continued from page 55

lubrication expert said there are hundreds of greases especially tailored for unusual aplications; and that the extremely low speed and high temperature of kiln car bearings make them a special application worthy of very special attention.

Ceramic die parts can reduce lost time, according to W. S. Humphreys of American Lava; and ceramic parts for crushers and grinders are another maintenance-reducing possibility, Pemco's Frank Chapman told the production men, even displaying a ceramic hammer mill hammer.

Edwin Hawk (Hawk Laboratories) has made quite a study on brick machine maintenance and passed on sevveral hints to the gathering on this item of rapid wear; and ditto for Forrest Paschal on ideas for keeping maintenance to a minimum on crushers and grinders in the clay preparation department.

"One of the best ways to reduce maintenance, and thereby assure a minimum of lost production, is through preventive maintenance as practiced in other industries", said Jim Ogburn of State College's Industrial Experimental Program. He urged the brick producers to study the history of their replacement cycle for various parts and, instead of waiting until such parts break or wear out completely, to institute a cycle of preventive maintenance to keep the machinery running on schedule. He agreed that there may be a period right after starting a preventive maintenance program in which the repair part bill might seem disproportionately high; but he said eventually this should begin to show a saving—and throughout the entire era there will be the big benefit of more and steadier production.

On the second day the program shifted from lost production and went into the second phase with ideas for getting each manufacturing department to step up its output. And under the title "Make One Kiln Do The Job Of Two" Bob Carpenter Engineering Services illustrated what can be done to increase kiln output through more positive control of convection currents within the kiln. Similarly, Miller Equipment Company's Neal Mohler said that proper

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dryer recirculation is the only way to provide the balance between humidity conditions and temperature required to effect fast drying.

Clemson Professor G. C. Robinson came to the meeting armed with considerable research data on the varying effects of grog additions to answer the question as to whether prefiring can increase production. Extensive experiments with both underfired and high-fired grog tended to show a marked difference on final strength and total firing shrinkage, varying not only with the degree of prefiring used but also in relation to the grain size of the grog as introduced. "Understanding these factors and taking them into account, the basic idea of prefiring can offer tremendous possibilities and speed up firing schedules," said the popular ceramics teacher.

L. R. Whitaker of Carolina Ceramics threw out some thought-provoking comments on methods of forming clay ware, drawing on his extensive tours of clay plants all over the world. And a cement manufacturer, Giant Portland's Howard Ponzer, wound up as anchor man on the second day by telling how his industry handles raw material preparation on a mammoth scale which dwarfs that of the average brick manufacturer.

The wind-up day was devoted to ideas which might help minimize the bad effects which seasonal changes can wrought upon clay plant production, after F. W. Dodge statistics were offered by A. G. Spivey on the seasonal consumption of brick. Here Garrison Finzer touched a responsive cord with his talk on "Good Inventory Is Better Than An Extra Kiln". Finzer said that a good inventory is not only necessary to take up the winter slack and be ready for the Spring upsurge, but also that ". . . it is considered a vital necessity to satisfy customers and dealers when offering a wide range of brick types and finishes . . ." as at the Sugarcreek plant of Belden Brick from where the speaker hails. The subject of a planned inventory, with good storage facilities, was one on which the delegates voted unanimously to pursue in more detail next year.

Art Blume, who has licked some pretty serious drying problems in the manufacture of quarry tile at Murray Tile Co., gave the brick manufacturers plenty to think about in connection with their dryer operations and how same is affected by the weather.

After State College's George Harrell gave a learned discussion on the need for more storage of raw material at all phases, the representative of a big equipment distributor threw out a brand new idea which might make raw material storage not only feasible but actually economical. J. G. Poole of the Gregory-Poole Equipment Co. indicated that what the average clay plant digs, mines or otherwise wins from the clay pit in a year could be accomplished by earth moving specialists in a fraction of the time, during good summer weather. The equipment man also indicated that often

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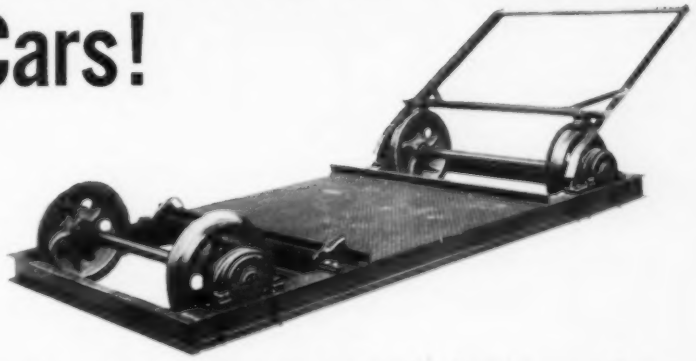

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Continued from page 61

times such work on a contract basis would save a considerable amount of money over present costs. Thus he justified the strange title of his paper: "Make Bricks All Year From Summer Clay", which could ring an idealistic note in many quarters. (Harrell had pointed out previously, however, that not *all* clays are not beneficiated by storage; that some cases of detrimental leaching action of sulphur-bearing materials have been recorded which indicate caution before leaping into big outdoor storage piles, although such instances are believed in the minority.)

Neither theme nor data was announced for the next Southeastern Clay Plant Operators' Forum, but it is said to be scheduled for Clemson College approximately the same time next year.

In previous years, meeting topics have covered: Tunnel kilns; quality control; color; and body additives.

Miller Equipment Co. Diversifies Operations

With the recent completion of the installation of three tunnel kilns and the present construction of four additional kilns now going on, the Miller Equipment Company of Salisbury, N. C., is embarking on a new diversification program.

Stressing modernization for the small-plant operator, the company recently completed two tunnel kiln installations where kilns were built for a daily production of 20,000 bricks per day. The unit at Chestertown Brick Company in Chestertown, Md., was completed in the summer of 1958 and the small kiln at Lachance Brothers Brick Company in Gorham, Maine was completed in the spring of 1959. The tunnel kiln in Maine is the first such unit north of Hartford, Connecticut in the New England States and will enable the company to operate 12 months a year in place of a 5-month operating period experienced when open air-drying facilities were used.

A small kiln for wall-tile built by Miller is now in operation at Mid-State Tile Company in Lexington, N. C. and has doubled production of the Tile Company.

In addition to three tunnel kilns being constructed at the present time, (one in North Carolina, one in South Carolina, and one in North Dakota), a shuttle kiln and dryer is being built for Pine Hall Brick & Pipe Company in Madison, N. C. The shuttle kiln is of twin-tunnel design and will offer the flexibilities of a periodic kiln along with some economies of the tunnel kiln. With a capacity of 68,000 brick at each charging (20 cars @ 3400 ea.) the kiln will be turned over 2 to 3 times a week, providing additional first quality ware to supplement the existing tunnel kiln production.

Another program in the diversification program of Miller Equipment Company is the investigation of the pre-firing principle applied to ceramic raw materials. A calcining furnace, capable of producing 4 tons per hour of calcined material was recently built by Miller and is now operating at West Brothers Brick Company in Washington, D. C. The clay is ground and screened before the calcining operation, and after pre-firing, the calcined material is added in proper proportions directly to the pugmill. Benefits resulting from the addition of this calcined material include less laminations in the column, easier and faster drying, less drying and firing shrinkage and better absorption properties.

With architects' demands for larger and larger structural clay product units, the Miller Equipment Company has a design for, and is currently negotiating with several companies for the construction of a plant to manufacture these units. The company's president, B. C. Miller, has just returned from a visit to Europe where he investigated the manufacture of large structural clay products. A block machine of Italian design is now under consideration by company officials which may be incorporated in the plant design. Details will be released at a later date.

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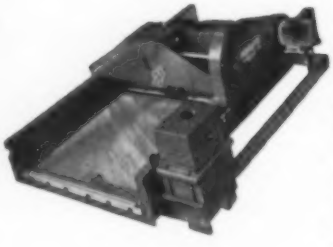

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Continued from page 62

Finally, the Miller Equipment Company in addition to building kiln cars, hammermills, hydraulic equipment and its other standard line of equipment, is busily engaged in the structural steel business. Successful bids have been entered in the three-state area of North and South Carolina and Virginia and the company is enjoying considerable success in this operation. Foresightedness enabled the structural-steel division of the company to enjoy almost normal operation during the steel strike, although, as in all businesses, the steel strike left its ultimate scars.

Production facilities of Miller Equipment Company are located in Salisbury, N. C., parallel and adjacent to the main line of the Southern Railway System. Every major trucking line in the South is constantly available for pickup and delivery of Miller products. In addition to these transportation facilities, Miller operates his own fleet of trucks for faster and more economical customer service.

Koppers Names Branch Manager

John R. Fellabom has been appointed manager of the refractories branch in the engineering and construction section of the procurement department of the Koppers Co., Pittsburgh, Pa. He succeeds the late J. G. Britner.

A graduate of the University of Pittsburgh, Fellabom joined Koppers in 1942 serving in various capacities in the procurement department.

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If you're due to change your address, be sure to avoid missing an issue of B&CR. Please notify us of your new address at least six weeks in advance of moving date. Write: BRICK & CLAY RECORD, 5 South Wabash Ave., Chicago 3, Ill. Be sure to give both old and new address, zone number, and your name.

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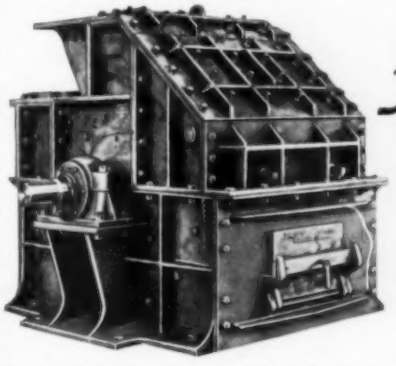

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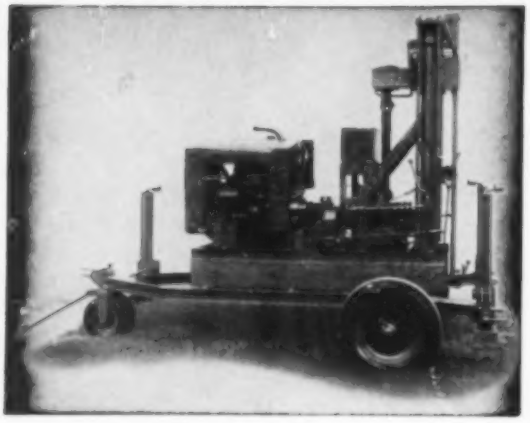

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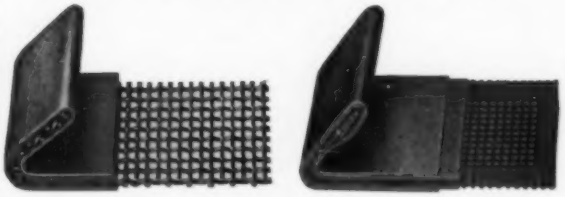

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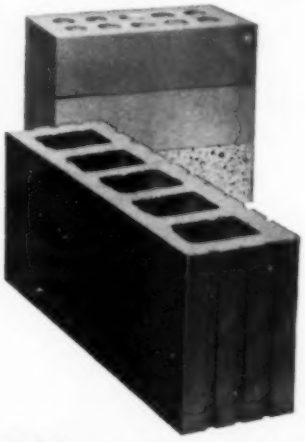

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THE NEW 1959-60

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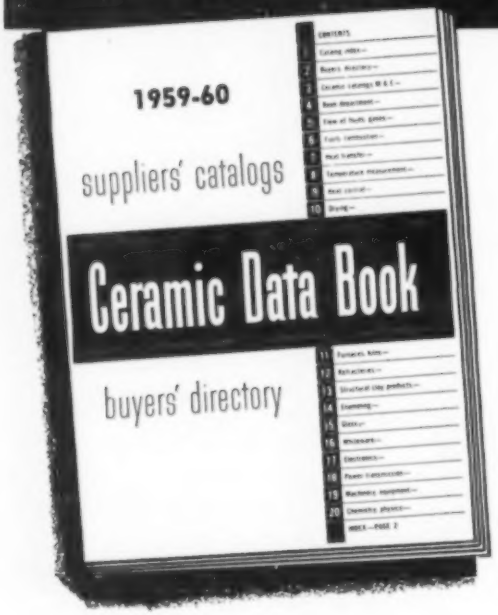

New Trade Names Section

New tabular graphic technical information for all ceramic industries and processes

Enlarged Buyers Guide and information index

New Catalogs of Equipment and Raw Materials Suppliers

Be sure to thumb through your copy immediately—to acquaint yourself with the new products and items—for future reference—it's important to your building and production planning.

Additional Copies Available—$2.50 each; $6.00 foreign.

Ceramic Data Book

5 South Wabash Avenue **Chicago 3, Illinois**

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Limited to Want Ads, Consulting Engineers, or Used Equipment ads, (wanted or For Sale)

TRANSIENT WORD ADS: 12c per word for each insertion.

Headings such as "Wanted", "For Sale", etc. and address to be counted as part of the ad. Minimum charge $2.00 each insertion.

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FOR USE OF BLIND ADDRESS: (Care of BRICK & CLAY RECORD) count as 15 words to cover cost of handling and forwarding replies.

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$15.00 per inch. On advance orders for twelve consecutive issues, 12.00 per inch per insertion. (No retroactive adjustment).

An inch is measured vertically on one column, 2¼" wide; three columns on a page. For a two-column advertisement add together height in each column.

Display classified advertisements are set and rates apply in half-inch multiples. (1 inch minimum; 5 inch maximum).

Add 25% to above rates for Reverse Plate (white lettering on black background).

All rates based on payment in advance except on regular contract.

No Agency Commission or Cash Discount

BRICK and CLAY RECORD

5 South Wabash Avenue, Chicago 3

WANTED—HELP

Fire clay refractory manufacturing supervisor, with ceramic engineering degree or good experience background, wanted for our Perla Plant in central Arkansas. Salary commensurate with experience and ability. Good opportunity for the right man, excellent opportunity for the right ceramic engineer.

ACME BRICK COMPANY
Malvern, Arkansas

SALESMAN—Large progressive refractory company has opening for a go-getter. Prefer experience in specialty line. Excellent opportunity for advancement. Give full details in first letter. All information held in strictest confidence. Write Box 12-AAB, Brick & Clay Record.

Experienced production man in heavy clay products field, capable of assuming full responsibility for operation of plant. Write Box 12-AGH c/o Brick and Clay Record.

Ceramic Engineer for clay products plant—one with some experience in production desirable. Box 12-AAZ c/o Brick & Clay Record.

POSITION WANTED

POSITION WANTED—As temporary assignment by a graduate Ceramic and Mechanical Engineer with 20 years experience in plant design and lay out, raw material examination and investigation property mapping, drying, and combustion studies, crushing, grinding and classification, equipment specification, supervision of construction and operation, new product development, operations research and statistics, material handling and packaging engineering. Will submit detailed qualifications and renumeration schedule on request. Address Box 5-WAU, care of Brick & Clay Record.

Improve your Latin-American sales. American resident in Mexico with sales and ceramic experience, presently employed selling to industry seeks new position. Write Brick & Clay Record Box No. XAT.

Ceramic engineer or plant manager in refractories or face brick plant. Experienced in production and research. Address Box EAR-13 Brick & Clay Record.

POSITION WANTED

Graduate ceramic engineer with 20 years experience in heavy clay products and refractories desires responsible position in production management with progressive company. Capable assuming full responsibility of manufacturing operations. Hard worker, conscientious productive minded and a christian. Excellent record in handling labor and expert in firing clay products. Box #12-AAA, care of BRICK AND CLAY RECORD.

FOR SALE—USED EQUIPMENT

DE-AIRING PUG & AUGER COMBINATIONS—Fate, Root, Heath PR6 (6" auger)—J. C. STEELE #50 (15" auger)—Bonnot 18" auger

PUG MILLS—9' Freese, 10' J. C. Steele, 10' American Double Shaft—15' Granulators—Freese P16—Chambers P51

DRY PANS—7' American, 9' Bonnot—#418 American Rim Discharge (new '57) w/40 HP motos

SCREENS—3 x 5, 3 x 10, 4 x 10 Tyler Hummer—42" x 10' Cedar Rapids—5' x 12' (2 dk.) Robins—5' x 10' (3 dk.) Diester

ROLL CRUSHER—SMOOTH—30" x 16" f Chambers—32" x 18" f Steele DISINTEGRATING—12" f Steele—16" f Chambers #1—24" f Chambers—24" f American

SINGLE ROLL—18 x 36 McLanahan—24 x 24 Link Belt—18 x 42 Class B McLanahan

SPENCER PRESSURE BLOWERS—270 cfm/24 oz.—150/48—550/24—635/16—1300/16—1500/14—1900/24—2200/24

LAWLER COMPANY

Metuchen, N. J. **Liberty 9-0245**

STOP GREEN SCUM
Insure Permanent Color-Control On Light Face Brick with MINERVA FLUORSPAR

Minerva Fluorspar vitrifies brick at low temperatures. Prevents migration of vanadium salts to surface of brick where it oxidizes to form green scum.
COSTS APPROX. 50c per ton of clay. Send for free booklet and free Test Sample. Write Today to

THE MINERVA COMPANY
FLUORSPAR DEPT. BC-1259
ELDORADO, ILLINOIS

RAILS AND DRYER CARS

250 Single Deck Dryer Cars
40 Triple Deck Dryer Cars
50 Rack Cars

All sections rails and track supplies.
New Wood Pallets made to your specifications.

M. K. FRANK

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480 Lexington Ave.
New York 17, N. Y.

105 Lake Street
Reno, Nevada

1209 Metropolitan Bank Bldg.
Miami 32, Florida

USED EQUIPMENT FOR SALE

1—De-Airing Machine, J. C. Steele # 50. with line shaft and pulleys.

1—J. C. Steele # 6-A Disintegrator with drive.

MARSHALL BRICK CO.
Marshall, Texas

FOR SALE—USED EQUIPMENT

FOR SALE

BRICK MACHINES—Combination & Deairing
PUG MILLS—Single & Double Shaft
GRANULATORS—Chambers 51 & Freese 16
CUTTERS—Steele 18, Freese C-25, Hand
DEAIRING—Steele #50 Bonnot, FRH Lab size
DRY PRESS—Boyd 4 mould Special
DRY PANS—4', 7', 9'
HAMMER MILLS—12x12, 24x12, 36x45
SMOOTH ROLLS—18x24, 16x30, 10x16, 30x36
DISINTEGRATORS—12", 18" & 24"
JAW CRUSHERS— 24x13, 18x24, 48x60
SINGLE ROLL CRUSHER—
ROTARY DRYERS & KILNS—2x20, 3x30, 6x40,
LAB—8 x 5 Rolls, Hammer Mill, Pulverizer
5'x6' KENNEDY VAN SAUN BALL MILLS
HYDRAULIC CERAMIC PRESS—vertical
HAND TILE PRESS
MIXERS—Lancaster EAG 3 & 4, Clearfield #610, Simpson #3, Blystone
SCREENS—3x5, 3x10, 4x10, Slip Lawns
FANS, PRESSURE BLOWERS—Many Sizes
FEEDERS—Disc Apron, Reciprocating, Even
HARDINGE CONICAL MILLS—3', 4½', 6', 7', 10'
RECORDING PYROMETER
PEBBLE MILLS—Various Sizes

List your spare equipment with us.

ROBERT L. CLARE

212 Rector St. Perth Amboy, N. J.
Phone Hillcrest 2-0061

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DE-AIRING MACHINES, #30 JC Steel FRH #6WJ6, Bonnot Combination, Chambers #9C, American 404-A, International #470, International Falcon.

CUTTER, Steele #18, Model BLH, Freese C-25, and C-20.

ROLLS, Disintegrating, Steele 24 x 24, 12 x 24, smooth roll 18 x 24.

DRY PAN, 9' Stevens, 9' Bonnot.

SCREENS, Tyler Hummer, Cedar Rapids, Sturtevant.

DRYERS, Rotary. Various sizes from 2x30 to 8 x 175.

FERNHOLTZ MACHINERY CO.
8468 B Melrose Place
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TUNNEL KILNS: 4 with cars 122' to 150' long. Circular kiln 70' diax 189' long
BRICK MACHINES: (desired) FRH Jr & Sr. Steele #30 & 40B. Amer 200. Bonnot 22,497 & Greyhound. Non-desired: Steele #1, #2, #5A. Ray, Freese GH, & Chambers Royal.
1—3 yd DRAG SCRAPERS. LOADERS
Boyd 4 mold, Gates 2 mold DRY PRESSES
Steele #18, Chambers 22 & Bensing CUTTERS
4, 6, 7, 8 & 9' DRY PANS. 8' WET PAN.
MILLS: 7, 10, 11 & 13' PUG. 2424 Dixie non-clog, 2650 std. Hammer. Raymond 50 47 Roll.
CONVEYORS: all lengths Troughing & Roller.
DRYERS: 3x30, 4x25, 7½x70, 8x70, 10x78
125 Kiln, 270 Dryer, 400 Rack CARS.

MID-CONTINENT EQUIPMENT CO. INC.
8321 Gannon—Wydown 1-2826—St. Louis 32, Mo.

FOR SALE

ONE ROTARY COOLER, 5'6" x 60', ½" Plate, "Z" Bar Lifters on front 40'. Complete with Reeves Varispeed motor drive and 10-h.p. motor. Excellent Condition—Used One Year

Hydraulic Press Brick Company
Brooklyn, Indiana—Phone 26

FOR SALE—One Raymond Dry Pan, One Eagle Dry Pan, One No. 40 Steele De-Airing Brick Machine, One Automatic Drain Tile Cutter, Two Steele Hand Cutters, One End Cutter, One Steele No. 1 Brick Machine, One Set of Smooth Rolls, One Disintegrator, Three Steele Transfer Cars, One Boyd "B" Dry Press. Bill Taylor, Sulphur Springs, Texas.

FOR SALE—USED EQUIPMENT

FIRST CLASS EQUIPMENT FROM YOUR FIRST SOURCE!

Pebble and Ball Mills—standard makes up to 8'x8'
Crushers & Hammer Mills
Lancaster & Simpson Muller Type Mixers all sizes stocked
Rotary Dryers and Kilns to 155'
Sifters and Screens; all sizes
Filter Press to 54"—Filters
Tablet Presses by Kux, Stokes, Colton; excellent selection
SEND FOR "FIRST FACTS"
Complete Illustrated Inventory

FIRST MACHINERY CORP.
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STerling 8-4672

BRICK MACHINES: (desired) FRH Jr & Sr. Steele 30 & 40B. Amer 290. Bonnot 22,497 & Greyhound. Others: Steele #1, #2, #5A, Ray & Chambers Royal. Freese GH.
1 to 3 yd SAUERMANS. Also Loaders
Boyd 4 mold, Gales 2 mold DRY PRESSES.
COMPLETE DRY PRESS INSTALLATION
4, 6, 7, 8, 9' DRY PANS. 8' WET PAN.
MILLS: 7, 10, 11 & 12' PUG. 2424 Dixie non-clog 3650 std. Hammer. Raymond 5047, 66" Roll.
CONVEYORS: 18", 24", 36", 42" all lengths Troughing. Also 24" & 36" Roller
DRYERS: 4x20, 5½x50, 7x40, 8x70, 10x78
125 Kiln Cars & circular TUNNEL KILN
TUNNEL KILNS: 4 with cars 123' to 150' long
All sizes Vibrating Screens.

MID-CONTINENT EQUIPMENT CO. INC.
8321 Gannon Wydown 1-2626 St. Louis 32, Mo.

FOR SALE

KENNEDY 7' x 9' contin. ball mill, 150 HP—1948
ROTARY KILNS: 11' x 155', 8' x 125', 8' x 9' x 100', 7'6" x 100', 7'6" x 60', 6' x 60', 3' x 24'.
ROTARY DRYERS: 8'8" x 70', 7' x 50', 6' x 50', 4'8" x 32', 3' x 15', 2' x 9'.
HAMMERMILL: Penna. Crusher NON-CLOG, 400 HP UNUSED, 1952, #DNC-5060.
PUG MILLS: 30" x 14', 7" x 3'6", T347 SS.

PERRY EQUIPMENT CO.
1432 N. 6th St., Phila. 22, Pa.
POplar 3-3505

FOR SALE

KENNEDY 7' x 9' contin. ball mill, 150 HP—1948
ROTARY KILNS: 10' x 230', 11' x 155', 10' x 78', 8' x 125', 8' x 9' x 100', 7'6" x 100', 7'6" x 60', 6' x 7' x 100', 6' x 60', 3' x 24'.
ROTARY DRYERS: 10' x 78', 8'8" x 70', 7'6" x 60', 7' x 50', 6' x 50', 4'8" x 32', 3' x 15'.
HAMMERMILL: Penna. Crusher NON-CLOG, 400 HP UNUSED, 1952, #DNC-5060.
PUG MILLS: 30" x 14', 7" x 3'6", T347 SS.

PERRY EQUIPMENT CORP.
1432 N. 6th St. Phila. 22, Pa.
POplar 3-3505

FOR SALE

DRYER CARS—200 pallet cars with rolled edge pallets 32" x 10".
HOIST—Ledgerwood single drum, Electric Model 2712.
SIDE DUMP CARS. 4 Easton 2 yd. v, 36" gauge.
GASOLINE LOCOMOTIVE—1—Brookville, 4 ton, 36" gauge.
RAIL—3000' 30 lb. rail with splice bars.
CRUSHER—1—McLanahan 16" x 24", renewable teeth.
BUCKET ELEVATORS. 1—56' high, steel casing, 16" x 8" buckets.
1—30' high steel casing, 12" x 6" buckets.
DISC FEEDER—Bonnot 60"
MIXERS—Simpson & Clearfield.
Plants bought & sold.

HERMAN A. HALL 118 Park Road
Phone FRanklin 24310 Wyomissing, Pa.

FOR SALE—USED EQUIPMENT

FOR SALE

PULLEYS of various sizes, face and bores.
ELECTRIC MOTORS, various H.P. and speeds.
BREWER Heavy Duty Conical Roll Crusher.
STEELE No. 5 Hoisting Drum for pulling up cars.
KILN COOLING FANS, 48 and 24", Motor Driven Propellers.

GRANT BRICK WORKS
Weldon, N. C.

Side Dump Cars: 120—1½, 2, 3 and 12 Yards
Gasoline Locomotives: 4, 6, 8 and 14 tons
Diesel Locomotives: 6, 10, 25, 45, 65 and 80 tons
Smooth Roll Crushers: J. C. Steele 12" and 18"
Automatic Cutter: Freese Model C-25
Rotary Dryers & Kilns: 4'x70', 5'x30', 5'6"x50', 80"x60', 6'x120', 7'x180', 8'x125', 10'x200'
WANTED—Air Compressors—Dryers—Locomotives

R. C. STANHOPE, INC.
603 42nd St. New York 17, N. Y.

FOR SALE

Used dry pans, grinders, crushers, clay working equipment, rebuilt by original manufacturer.

The Toronto Foundry & Machine Co.
TORONTO, OHIO LEhigh 7-1563

FOR SALE—PLANT

FOR SALE—BRICK plant, in operating condition in New Mexico. Best shale deposit in state. Owner wishes to retire. Address Box 11-QBH, care of BRICK & CLAY RECORD.

FOR SALE—BUSINESS

Business For Sale

Brik-Stik and Super Composition business for Brick Display panel assembling. Have served Brick Industry for forty years. Write Masek Glue Co., 1314 Denison Ave., Cleveland 9, Ohio.

MISCELLANEOUS

T. W. GARVE, P.E.
69 W. Weisheimer Rd.
Columbus 14, Ohio
Engineering Service. Clay Testing
DRYERS & KILNS TO FIT

We have designed every type of kiln for every kind of fuel and ware, TO FIT.

Forrest A. Paschal
Phone Sherwood 2-2749 & 2-2500
P. O. Box 289 Siler City, N.C.

Representing:
Huber Warco — Deister Concentrator
Robinson Ventilating — Engineering Associates
Lippmann Engr. Wks. — Manufacturers Equip.

Penn Crusher Div.
Southern Fabricating

MISCELLANEOUS

100 Tons 30# ASCE Rails practically new, never used as rail. Complete with accessories. Low price. **M. K. FRANK**
Grand Central Palace, New York
401 Park Bldg., Pittsburgh, Pa.
105 Lake Street, Reno, Nevada
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RAILS—TIE PLATES
Frogs & Switches
Track Accessories
W. H. DYER CO., INC.
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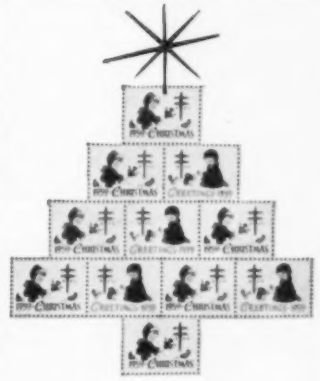
St. Louis 1, Mo.

F. J. FORD
Representative—Engineer
Clay Working Machinery
Car Tunnel Kilns—Dryers
P.O. Box 537 Dallas, Texas
P.O. Box 395 San Francisco, California

FOR SALE—BUFF BURNING FIRE CLAY, lump or ground. Ask for prices at mine or delivered via truck or railway. Boos & Co., Macomb, Illinois.

For Sale—Lower Kittanning buff burning plastic Fireclay.
Mine run, crushed, or ground. Consolidated Clay Mines Negley, Ohio.



THE GREATEST GIFT...

The greatest gift to find under the Christmas tree is the gift of good health. You have helped bestow the gift of health with Christmas Seal contributions. Medical progress against TB has saved eight million lives since 1907. But TB still kills thousands every year. Send your Christmas Seal gift today.

Fight TB with Christmas Seals

Do You Have Problems Deairing a Vertical Pipe Press?

Sometimes it is a problem to get adequate pugging and tempering of clay so as to eliminate the need for wet pans, and to feed this clay under vacuum into the totally enclosed chamber of a vertical steam or hydraulic Sewer Pipe Press. The photograph below shows one of several variations we offer which make use of two basic units.

The No. 50F Pug Sealer is actually the "upper half" of our famous No. 50 Separate Drive Deairing Machine which has been built for almost twenty-five years as Models A through F. The Model F offers 11'-4" of open pugmill 30" ID, and adjustable pitch knives allow maximum pugging for tonnages as low as 5-6/hr. or as high as 40T/hr. The clutch may be manual but a pneumatic clutch electrically actuated allows synchronization with some system of even clay-feed and with a carefully regulated high pressure water spray system for a most gratifyingly narrow tempering range. Under normal circumstances this Pug Sealer would operate on a continuous basis.

The lower unit is the Intermittent Pipe Press Feeder which obviously can be mounted at either of two right angles or "in line" with the Pug Sealer. When fitted with clamp-hub type split high-pitch augers as shown it will accumulate shredded clay from the Pug Sealer between cycles of the Press, and then will quickly discharge the clay under the "mud-head" of the Press when it is in the "up" position as the pneumatic clutch is electrically (and automatically) operated.

When the IPPFA and the Pug Sealer can be mounted "in line," and when the design of the Press is such that clay can be fed continuously whether the mud-head is up or down, we can combine these two units into a simplified form known as the No. 50F Pipe Press Feeder-Sealer in which the IPPFA is driven from the master gear of the Pug Sealer. In that case there is only one drive and clutch and the units cannot be operated separately. Naturally the augers in the IPPFA would be replaced by clamp-hub split single-end knives for continuous discharge of clay and maximum pugging under vacuum. This unit arrangement is quite similar to any standard combined-type deairing machine which may be used for this purpose except that the pugmill volume is far larger than any but the largest combined machines; the weight of the whole is considerably less; and the main emphasis of the drive is on the pugging shaft where it belongs instead of on the lower or "auger" shaft. For these last two reasons the price is considerably lower.

We have other variations—such as the addition of a Vacuum Pugmill where desirable. Write us about your Press deairing problems.

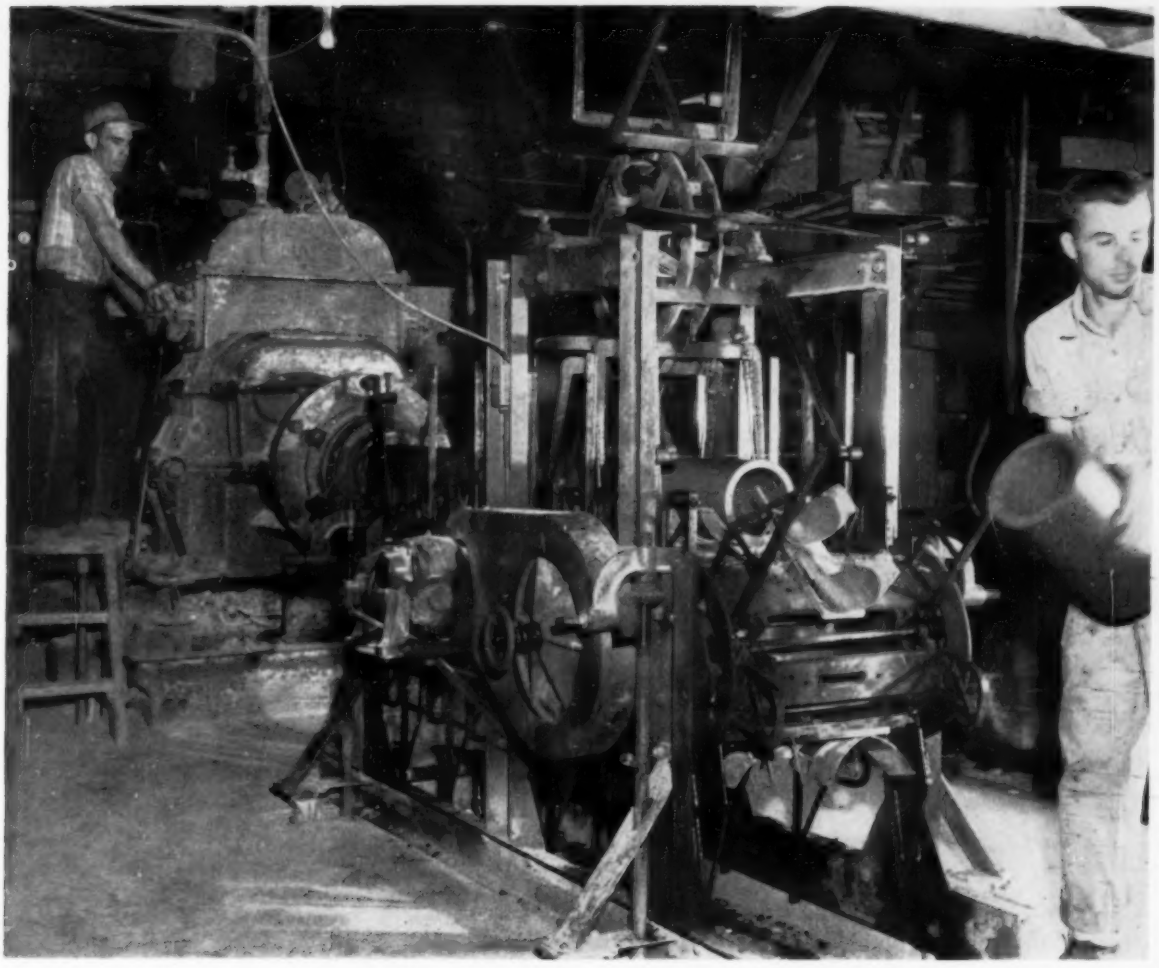
Pacific Agents:

Walter C. Stoll,
5028 Alhambra Ave.,
Los Angeles 32, Calif.

J. C. Steele & Sons

Statesville, North Carolina

• THE BEST IN CLAY MACHINERY SINCE 1889 •



"Production up 10% with our F-R-H Extrusion Machine - - down-time practically eliminated"

Reports Francesville Drain Tile Corporation, Francesville, Indiana

"We consider our F-R-H Hummer De-airing Extrusion Machine to be the finest piece of equipment of its kind made today," says R. C. Overmyer, president and manager of Francesville Drain Tile Corp., Francesville, Ind.

"The Type 7 unit in use at our plant extrudes 10,000 feet of 6-inch clay field drain tile during an 8-hour working day—giving us a healthy 10% increase in production— and product quality has improved tremendously. Performance far exceeds that of the machine it replaced—reducing our production costs and greatly increasing our over-all operating efficiency. Maintenance time has been cut to a few hours a year."

Find out today how F-R-H Brick and Tile Machines can increase production, improve product quality, reduce operating and maintenance costs *for you*. Simply send a brief outline of your operations to: The Fate-Root-Heath Company, Dept. B-1, Plymouth, Ohio.

F-R-H

CERAMIC MACHINERY

CONTRIBUTING ASSOCIATE SCPI

FOR 100% OPERATING EFFICIENCY—ORDER GENUINE F-R-H REPLACEMENT PARTS DIRECTLY FROM THE FACTORY

NEW!
Sand Colors

cost little, add big sales appeal

Architects and builders want *new* colors on brick. Now you can supply them easily, profitably. New, different Drakenfeld Sand Colors...

White	Gray	Blue
Pink	Green	Yellow

...can add salesmaking attractiveness to your brick at an average cost of only $2.50 per 1000 bricks. (Cost may vary from $1.00 to $4.00, depending upon type of sand and desired depth of color.)

Here's how to do it: Get a supply of Drakenfeld Sand Colors. Mix 2% to 8% color—a little goes a long way—with your dry sand. Then embed the blend in the wet brick with your sand blast machine. No change in processing required. No color drying time needed. Your brick can be face set immediately.

New Drakenfeld Sand Colors do not segregate in the mix, are truly bright, and adhere solidly. They can also be applied in sand mold and sand roll-on processes.

Drakenfeld offers a variety of other consistently uniform coloring materials—glaze stains, glaze specks, prepared glazes, engobe stains – to suit every process. We welcome your inquiry.

CALL ON Drakenfeld

YOUR PARTNER IN SOLVING COLOR PROBLEMS

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